



Baker Atlas

# RESERVOIR PERFORMANCE MONITOR

File No: CH084200	Company Well	WPX ENERGY SAVAGE RWF 413-25
API No: 05045219810000	Field County	RULISON GARFIELD
	State CO	
25 2S 94W RWF 23-25 PAD NABORS 577	Location SHL: 1525' FSL & 2304' FWL BHL: 2054' FSL & 1017' FWL SEC 25 TWP 6S RGE 94W	Other Services BOND LOG
Permanent Datum Log Measured From Drill Measured From	GL KB KB Elevation 26 ft Above P. D.	Elevations KB 6122 ft DF GL 6096 ft

Date	26/MAR/14	
Run	ONE	
Service Order	US625366	
Depth Driller	B719 ft	
Depth Logger	B679 ft	
Bottom Logged Interval	B689 ft	
Top Logged Interval	4571 ft	
Time Started	11:30	
Time Finished	17:30	
Operator Rig Time	6 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	70 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	235 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	26/MAR/14	
Equipment No.	4271	GRAND JCT.
Recorded By	NEWELL / SMITH	
Witnessed By	BOB CADY	

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Borehole Record		
Bit Size	From	To
13.5 in	26 ft	1125 ft
8.75 in	1125 ft	8737 ft

Casing Record				
Size	Weight	Grade	From	To
9.625	32 lbm/ft		26 ft	1125 ft
4.5 in	11.6 lbm/ft	180	1125 ft	8737 ft

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 3/26/2014 at the client's request.

The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

The amount of linear shift is 6 feet.

Logged In PNC-3D mode.

BHT = 235 °F

SJ = 5068'-5092'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	PCM	8250EA	10397894	FREE
1	1	TEL/CCL	8248ED	10296408	FREE
1	1	GR	2812LA	10274382	FREE
1	1	RPM	8281EA	10169250	FREE
1	1	RPM	8283PA	10169251	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	TEMP	8255XA	11774568	FREE

*MAIN SECTION*  
*PNC 3-D MODE*

SPL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		4538.250	8673.881
PNC Porosity	Borehole Size	8.750	inch	4538.250	8673.881
PNC Porosity	Casing Size	4.500	inch	4538.250	8673.881
PNC Porosity	Gas Filled	Non Gas Filled		4538.250	8673.881
PNC Porosity	Matrix	Sandstone		4538.250	8673.881
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	4538.250	8673.881

DEPTH OFFSETS		
(for Acquired Curves)		
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-26.519	FLTM
8248ED	-24.519	CCL CHV
2812LA	21.250	GR

2812LA	-21.969	GR					
8281XA	-12.702	HVC3Q0	SEQ3	AMA3	AML3	BKX	CXS
		CPT3Q0	CPT3Q2	CPT3Q3	CPT3Q4	ET3	IXS
		MCS3	MCS3Q0	QCAL3	RGN3	RICX	SDA3
		SDL3	SGA3	SGL3	STA3	XS	ASPEC3
		AMB3	AMF3	CHF3	IXSC	IXSN	RAT023
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-12.291	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
		QCAL2	RGN2	RICL	RONE23	RTW023	SDA2
		SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
		STA2	ASPEC2	ILSC	ILSN	WDTH2	RICLC
		CLSR	ILSR	LSR	RICLR		
8281XA	-12.041	CPRS	HVC1Q0	MV	SEQ	SEQ1	AMA1
		AMB1	AME1	AMF1	AML1	BKS	CHF1
		CSS	CORB	CORF	CPT1Q0	CPT1Q2	CPT1Q2A
		CPT1Q2B	CPT1Q2C	CPT1Q3	CPT1Q4	CPT1Q5	ET1
		G1	G2	GE1S	GE2S	ISS	MCS1
		MCS1Q0	QA1	QCAL1	QM1	RAT0	RAT013
		RBOR	RGN1	RICS	RIN	RONE	RPOR
		RTW0	RIN13	RONE13	RTW013	SALB	SC1
		SDA1	SDL1	SGA1	SGB1	SGBC	SGE1
		SGF1	SGFC	SGK1	SGL1	SS	SS2
		STA1	PD1S	PD2S	PD3S	MD1S	MD2S
		MD3S	DG1S	DG2S	DG3S	PD1M	PD2M
		PD3M	MD1M	MD2M	MD3M	DG1M	DG2M
		DG3M	MVS	MA	MVM	FILV	IAM
		TA	PVM	PVS	IAS	SSTAT	QPD1
		QPD2	QPD3	QMD1	QMD2	QMD3	QDG1
		QDG2	QDG3	QMA	QTA	QFILV	QMV
		QPV	QIA	DERR	DCNT	QPK1	QSA1
		PKS1	ASPEC1	HOC	FE2XC	ISSC	RINC
		ISSN	RDEN	WDTH1	RICSC	CSSR	G1R
		G2R	ISSR	SSR	SS2R	RATOR	RAT013R
		RBORR	RICSR	RINR	RIN13R	RONER	RPORR
		RTWOR					
8255XA	-0.792	PTFS	PTMS				
8255XA	-0.775	SPF1	SPFQ	TSCP	TSDP		
8255XA	0.000	DTEM	TEMP	TNF			
SYSTEM	0.000	TEN	TTEN				

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

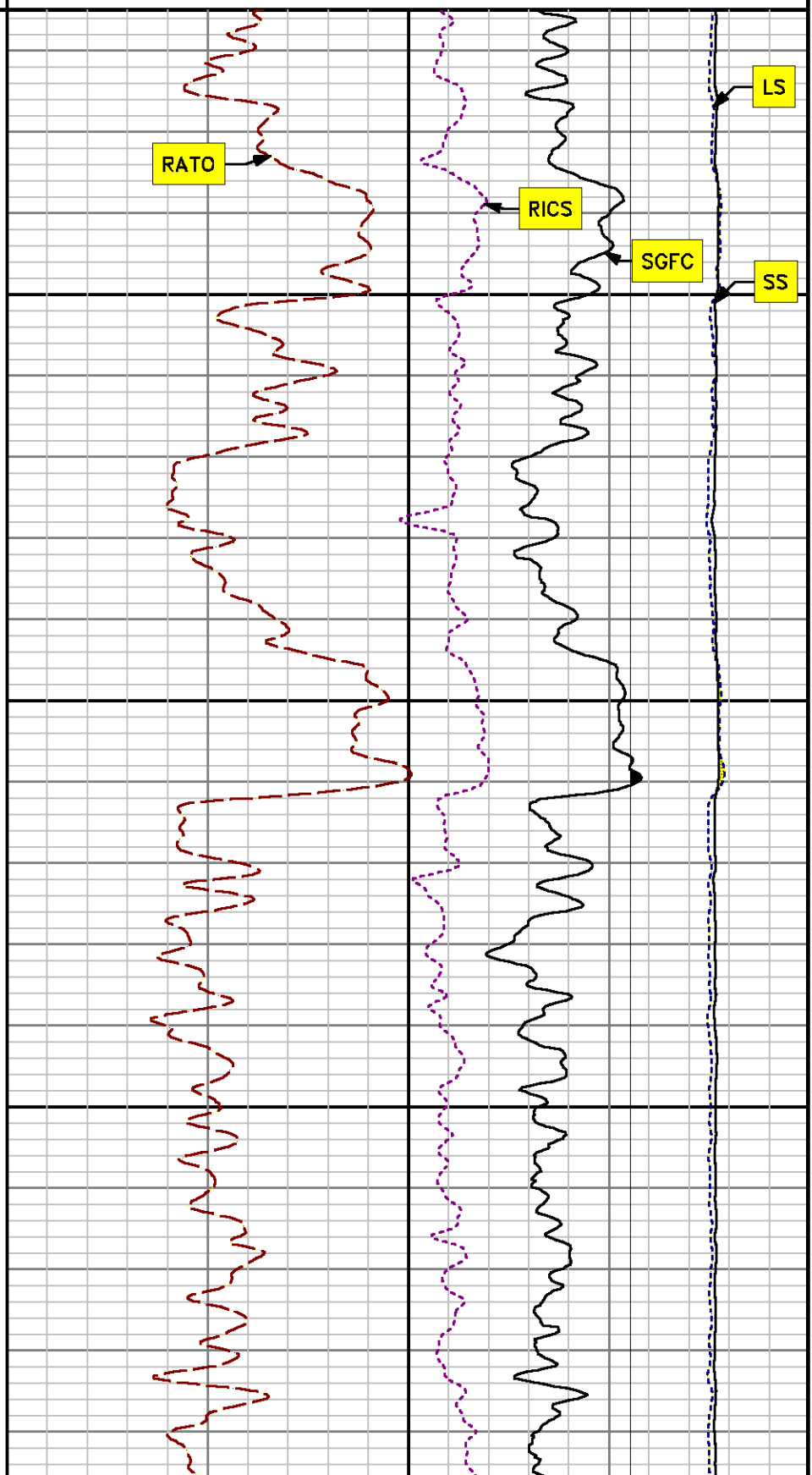
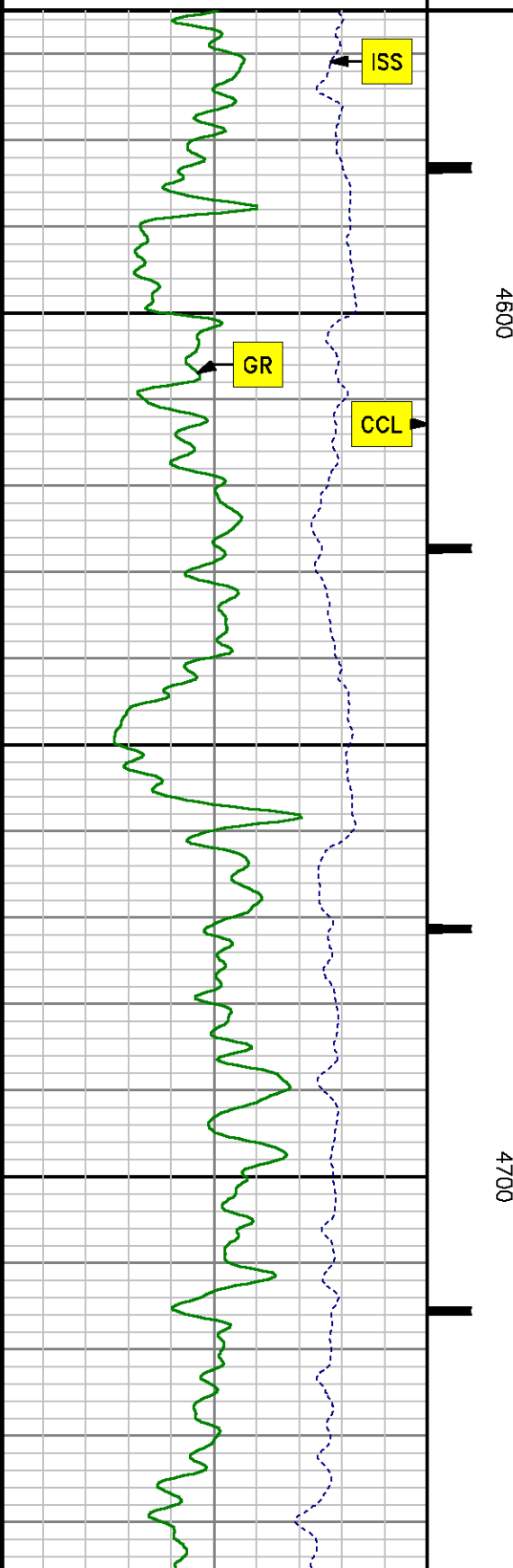
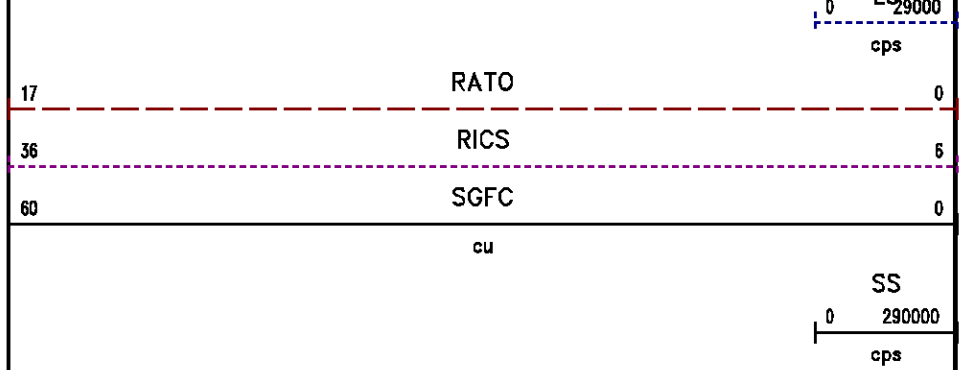
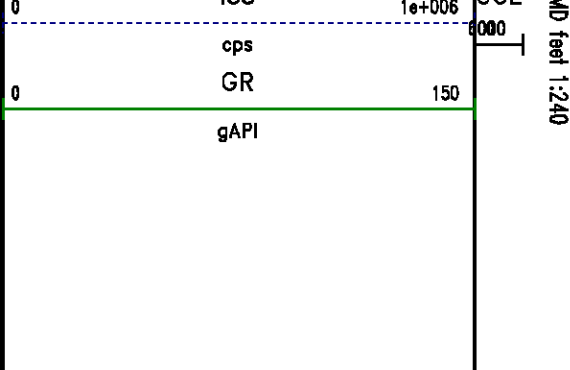
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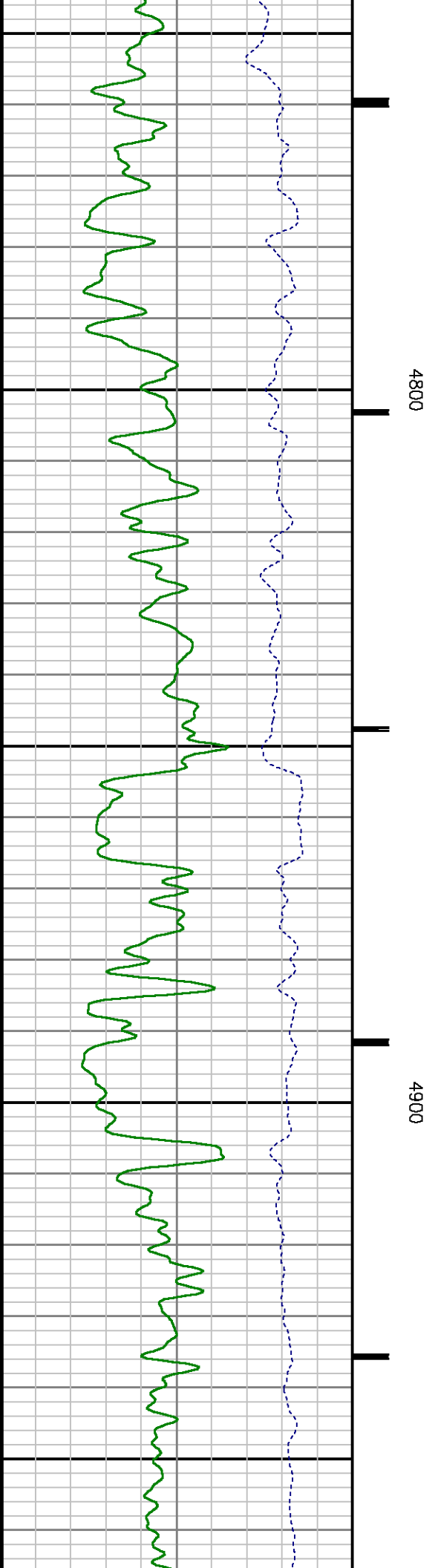
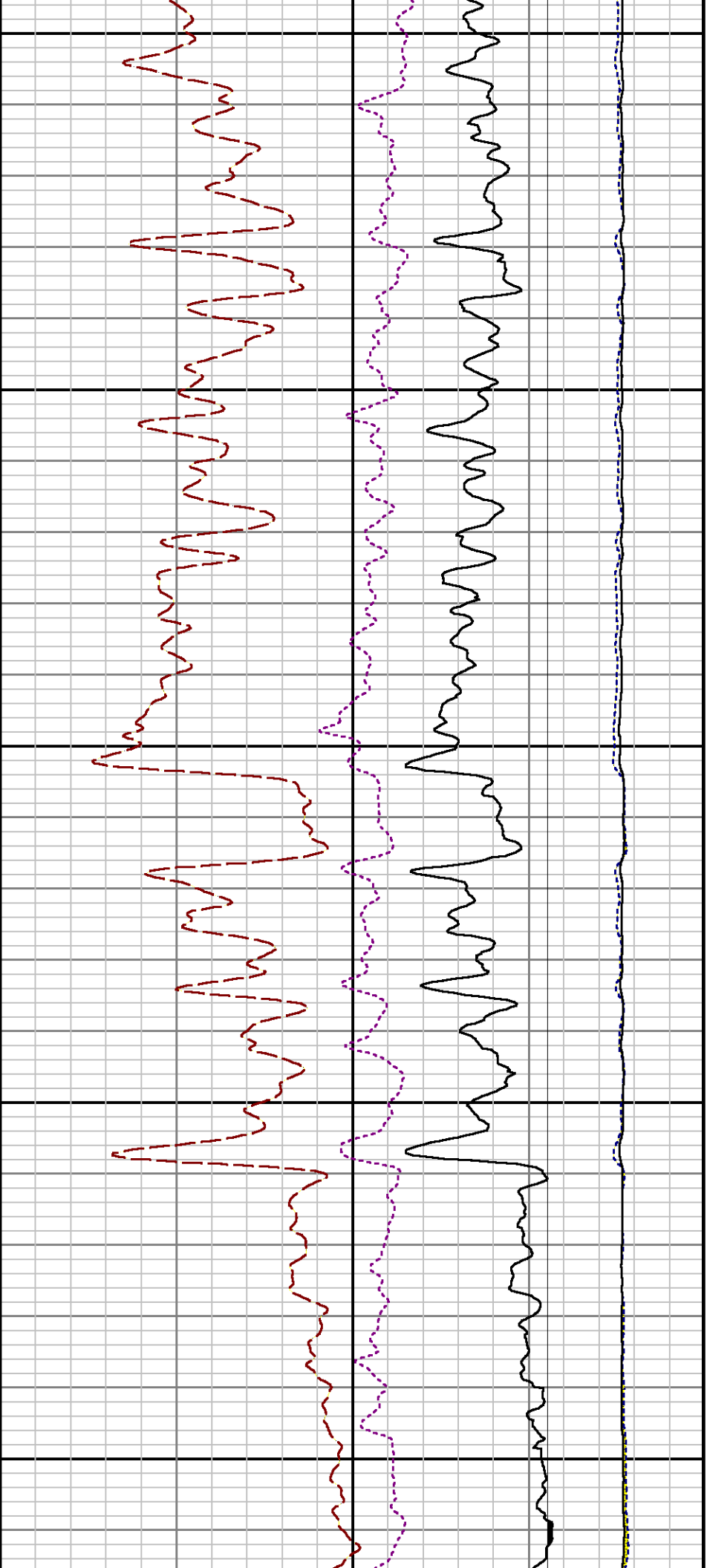
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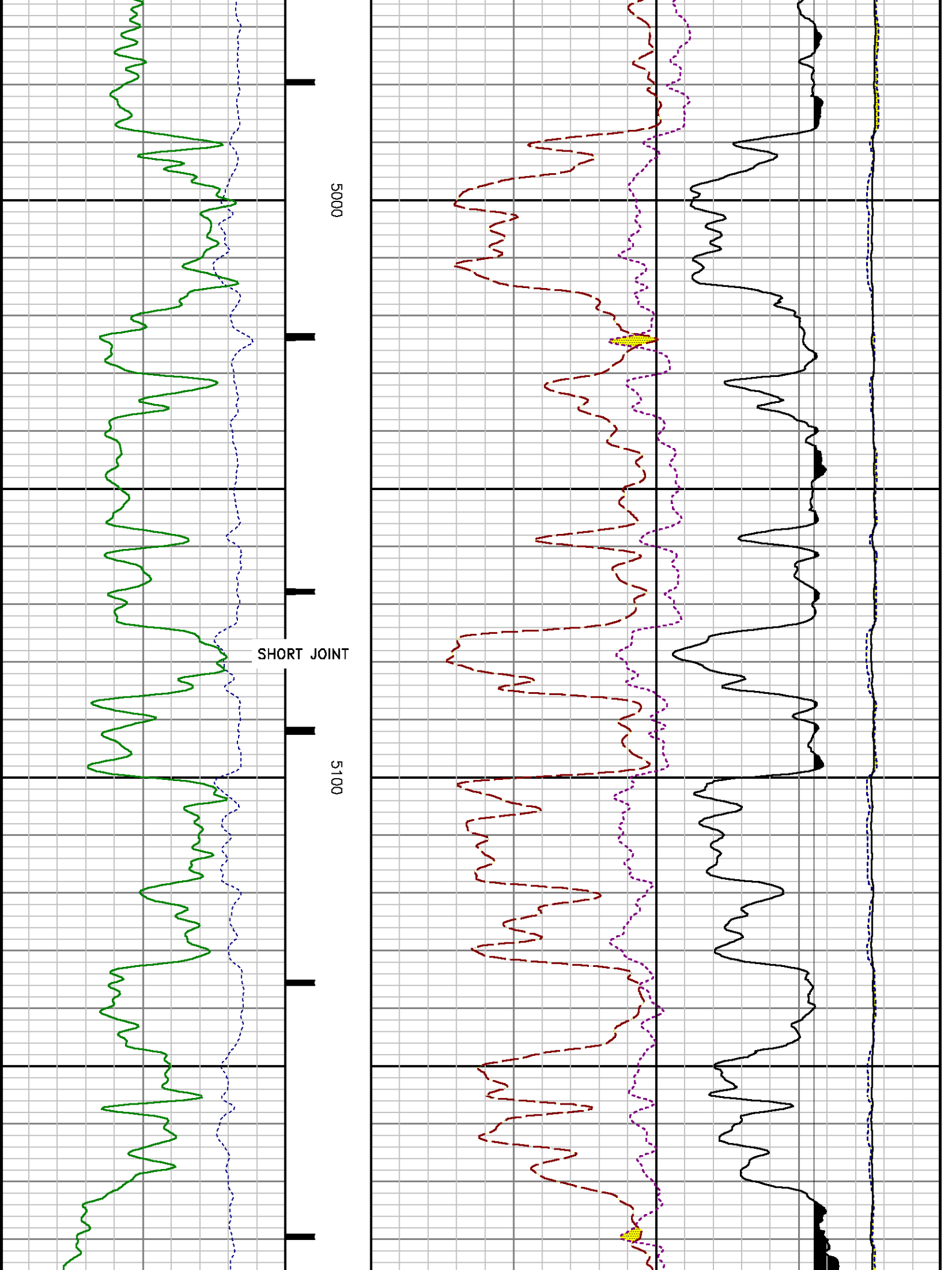
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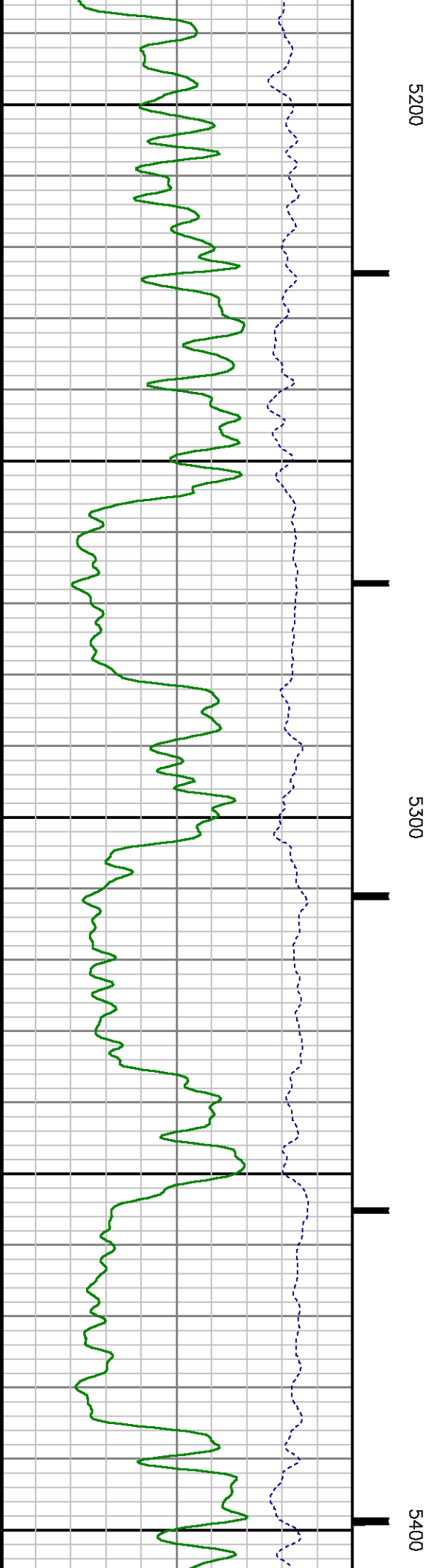
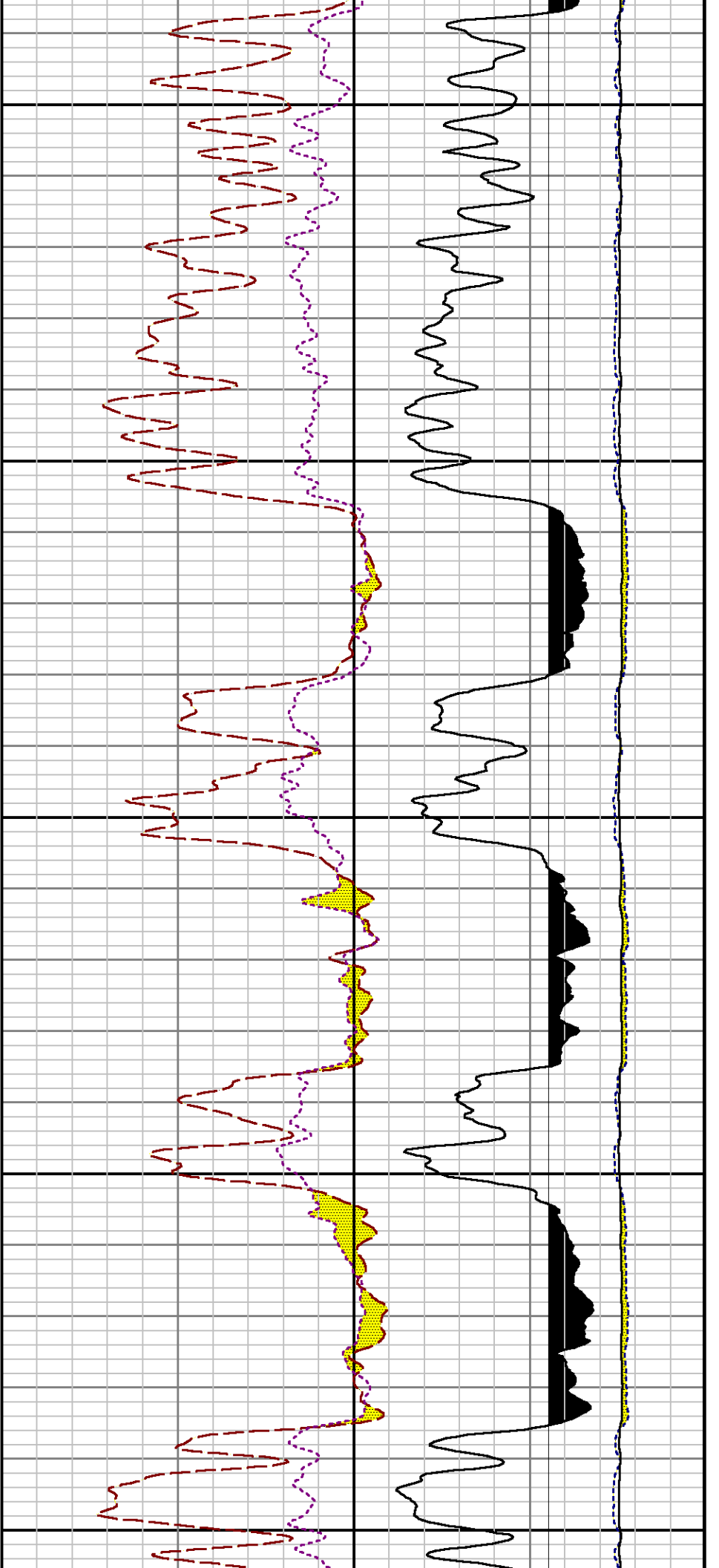
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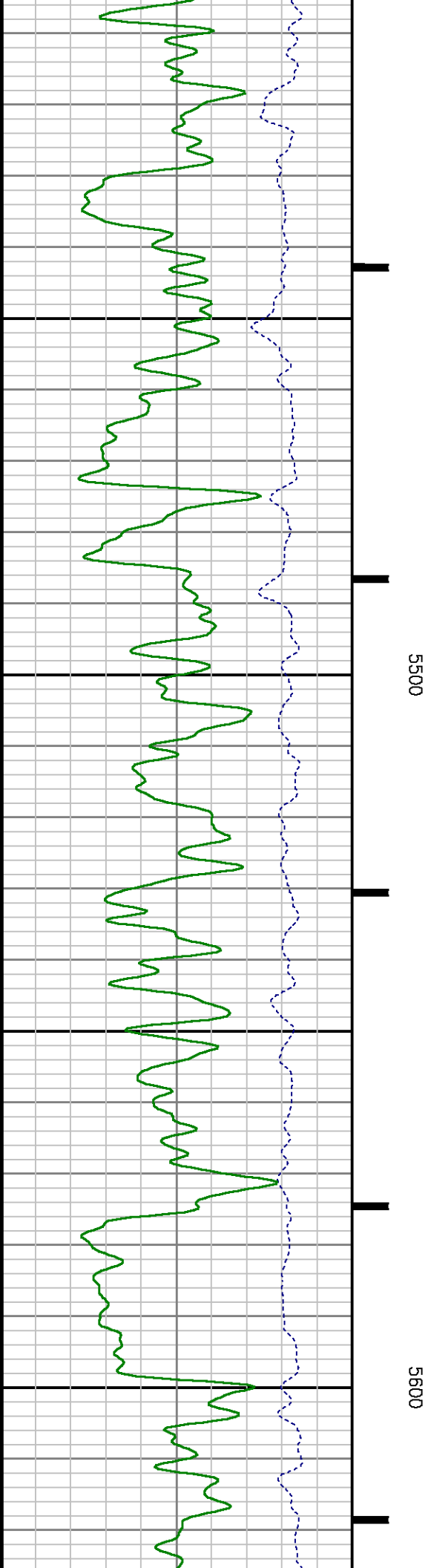
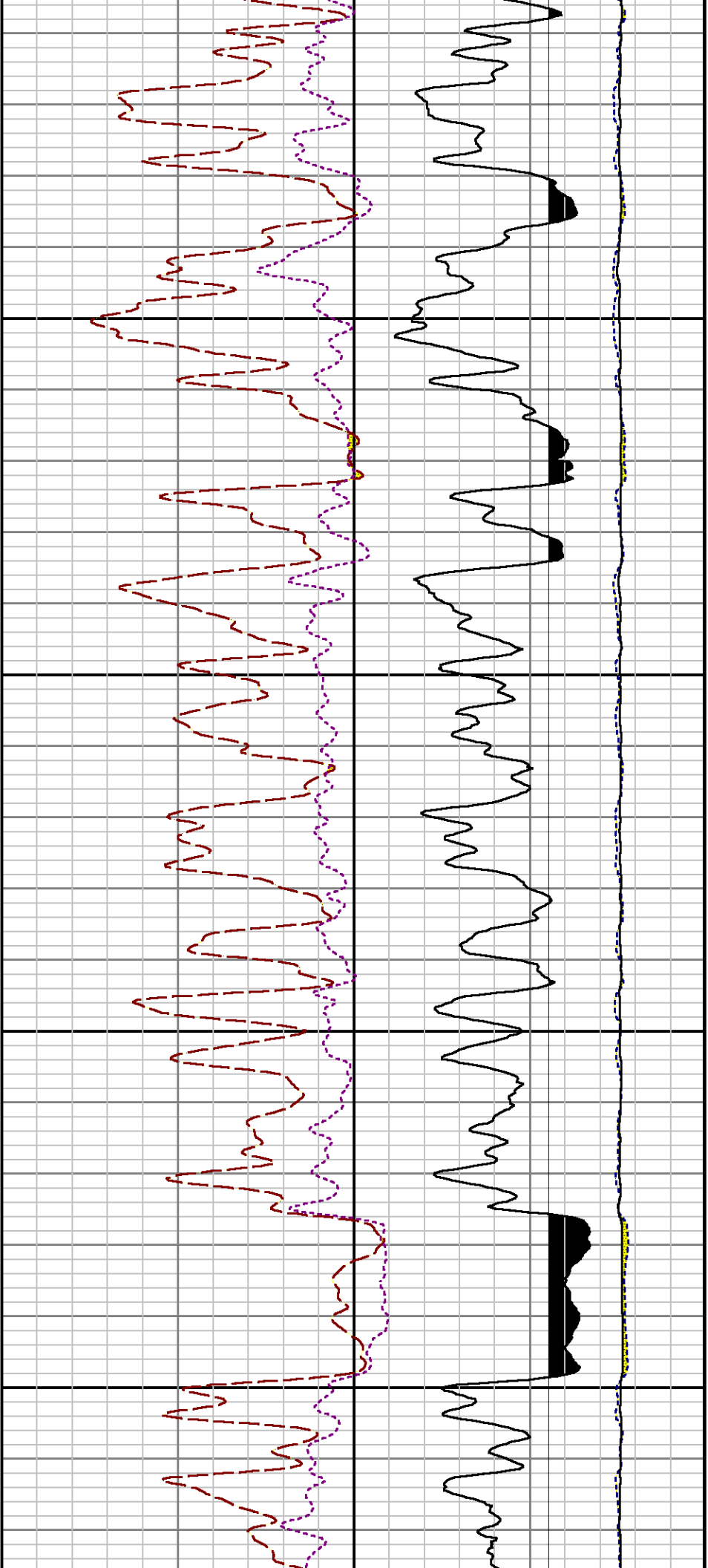
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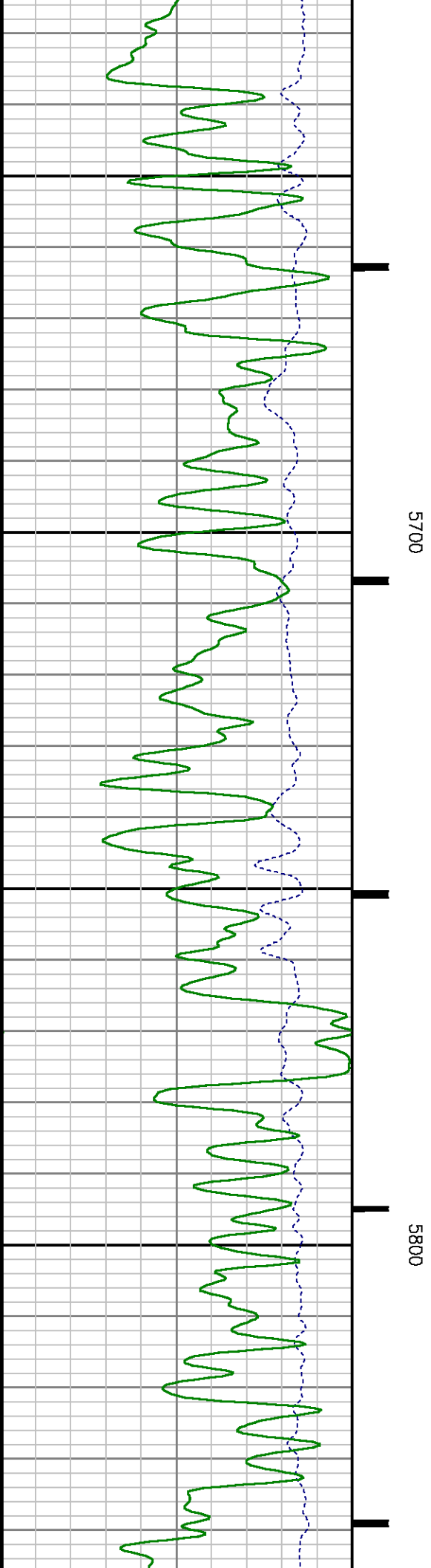
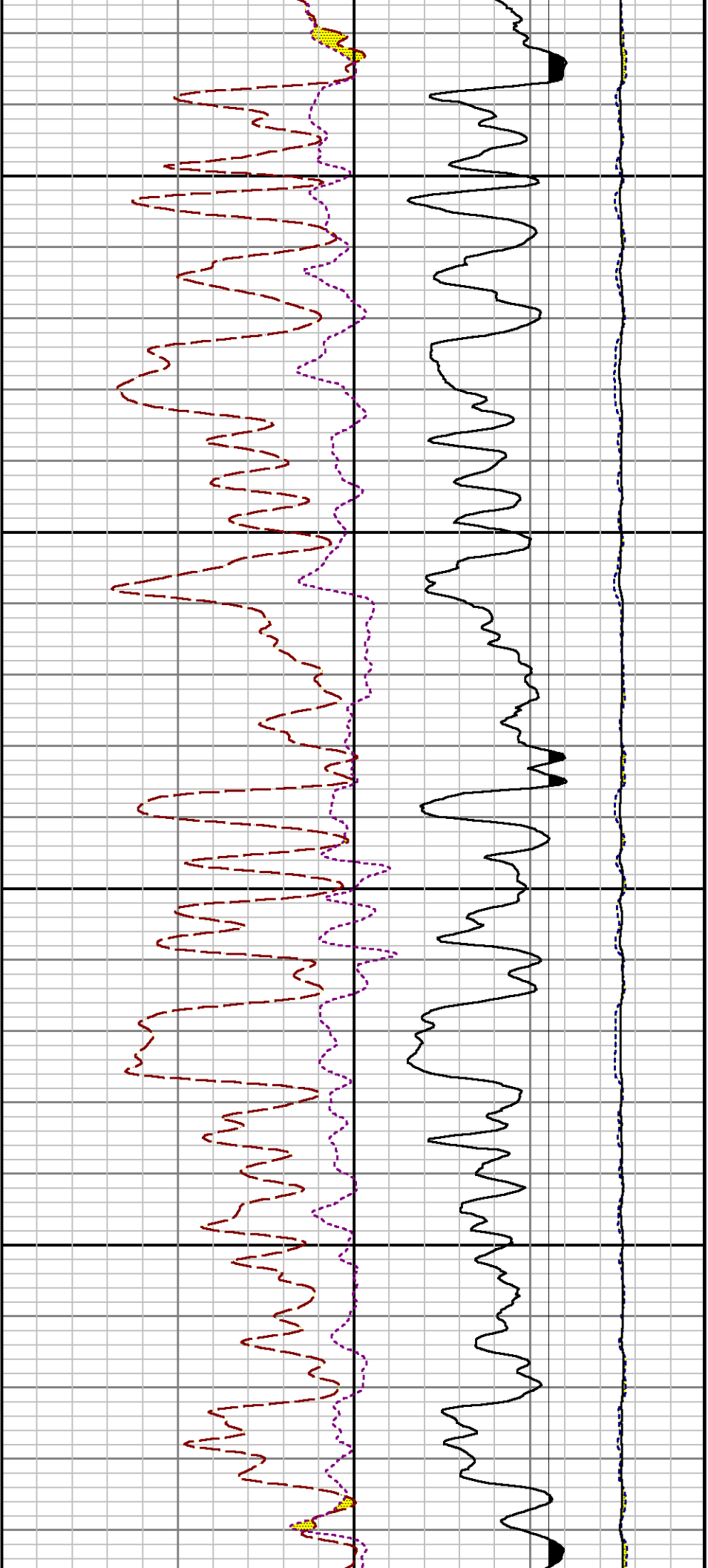


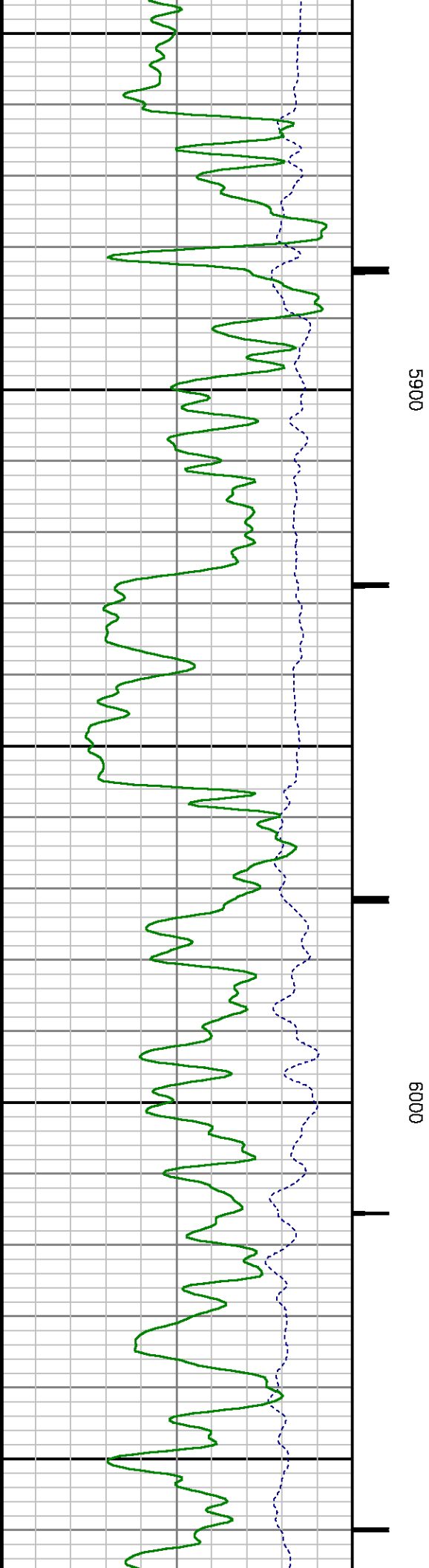
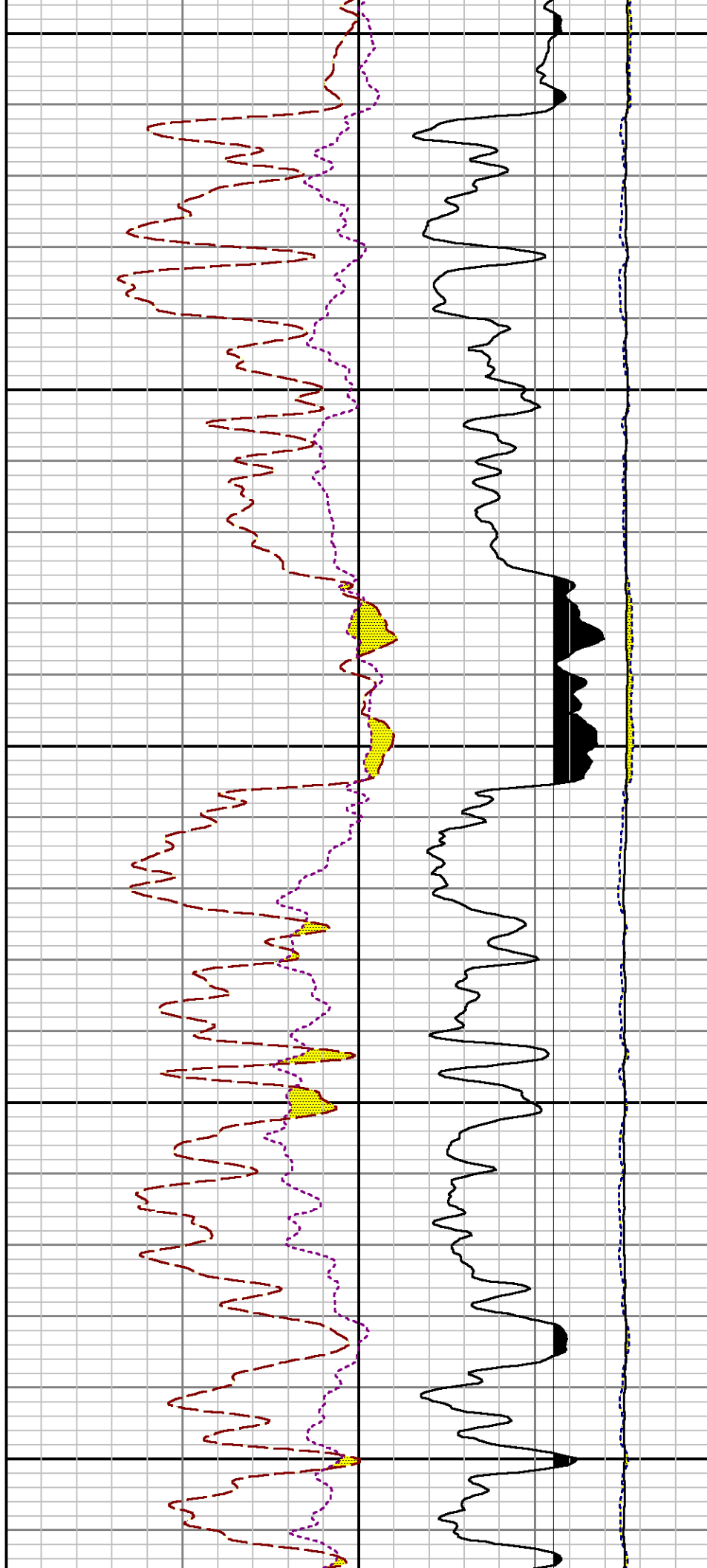


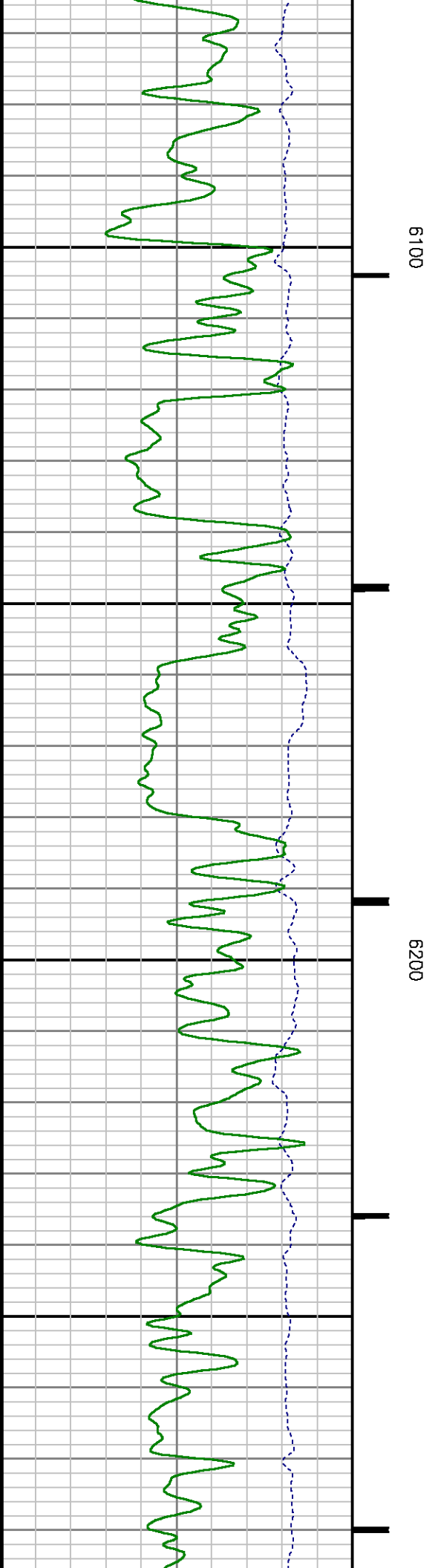
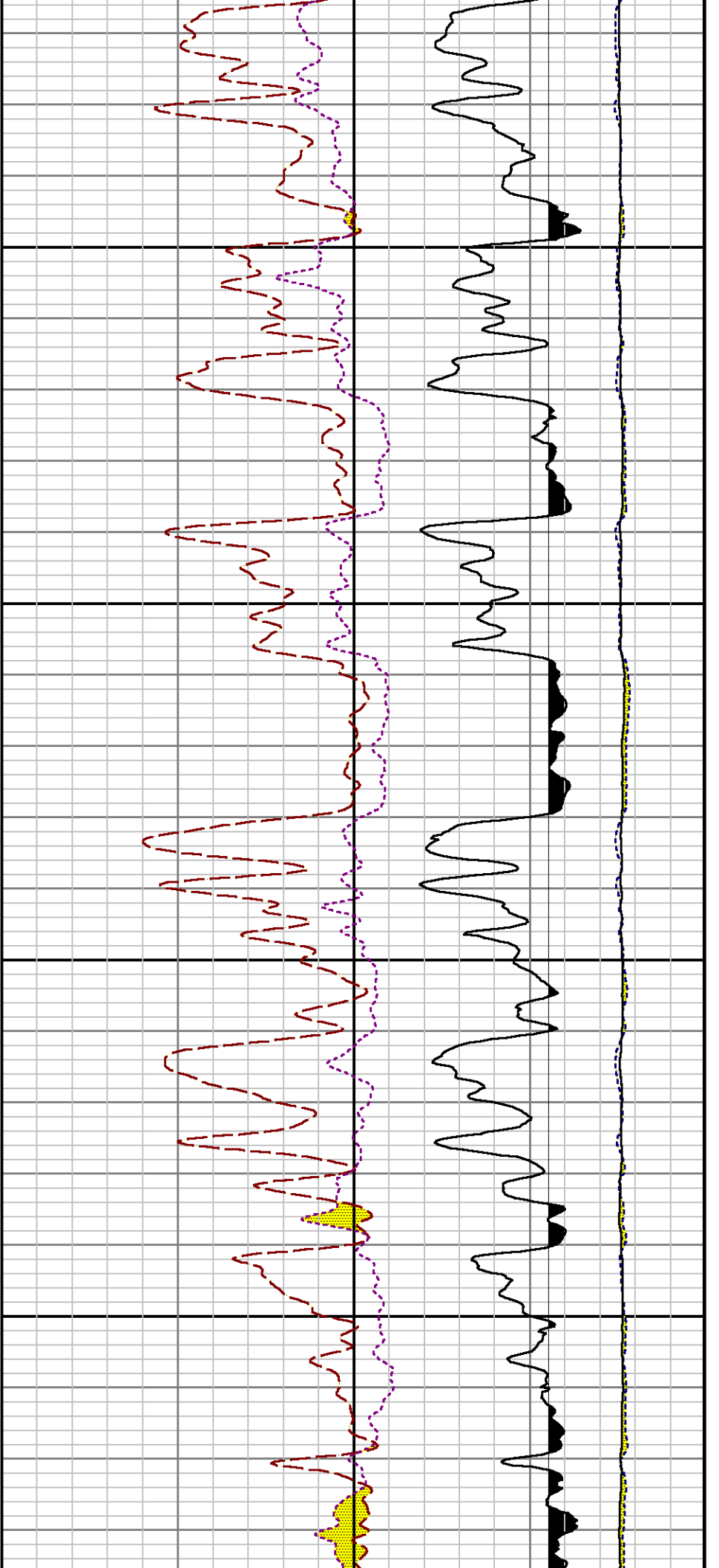


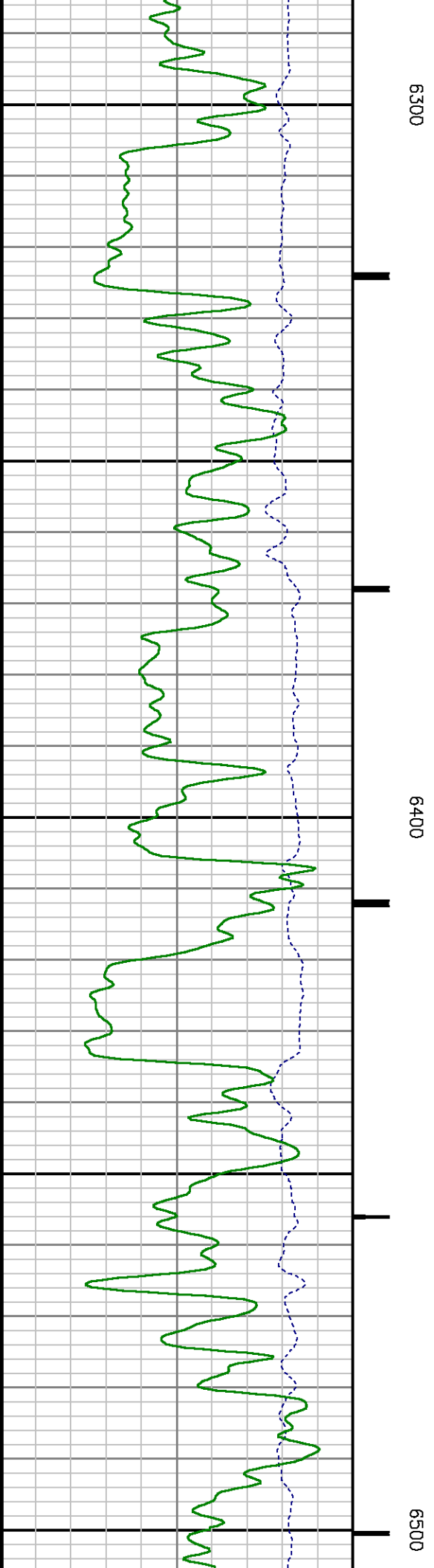
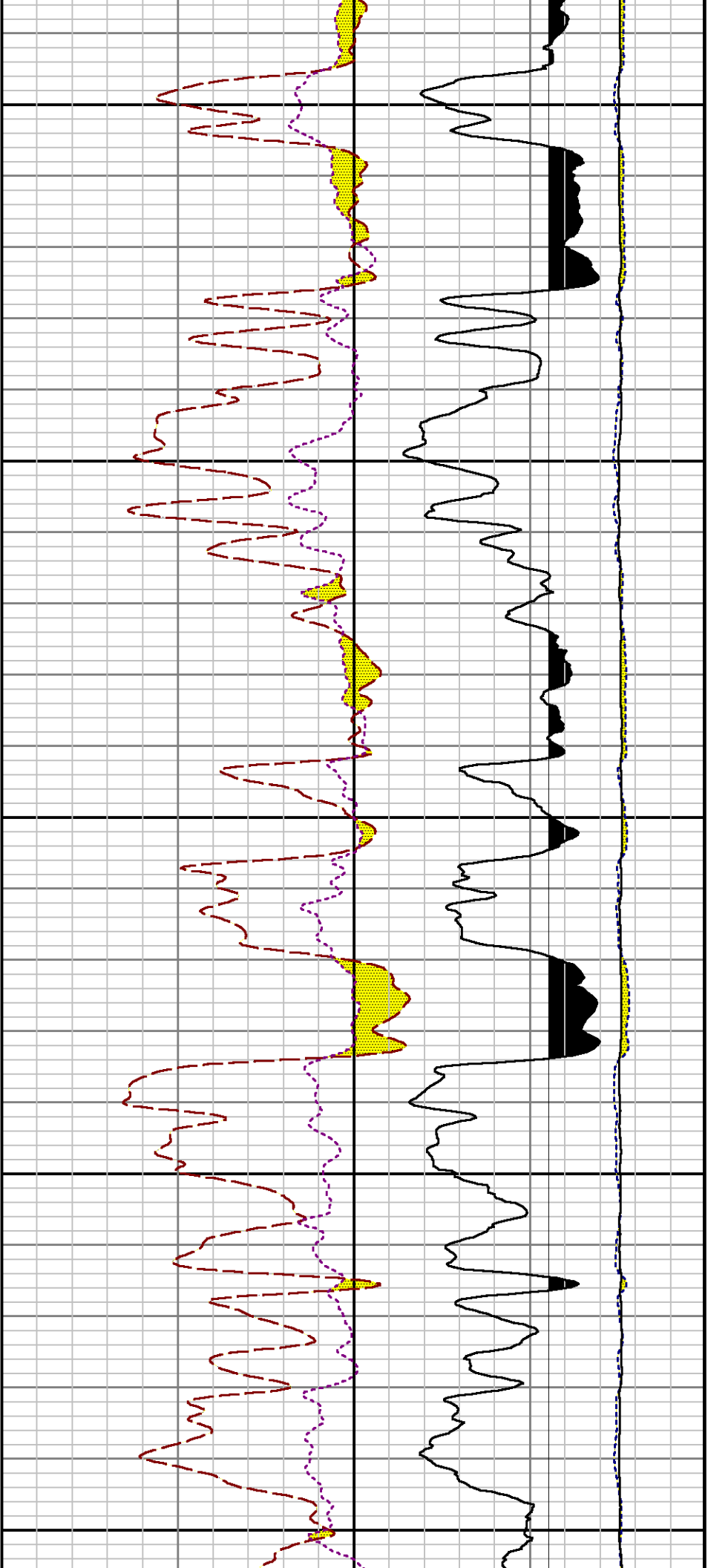


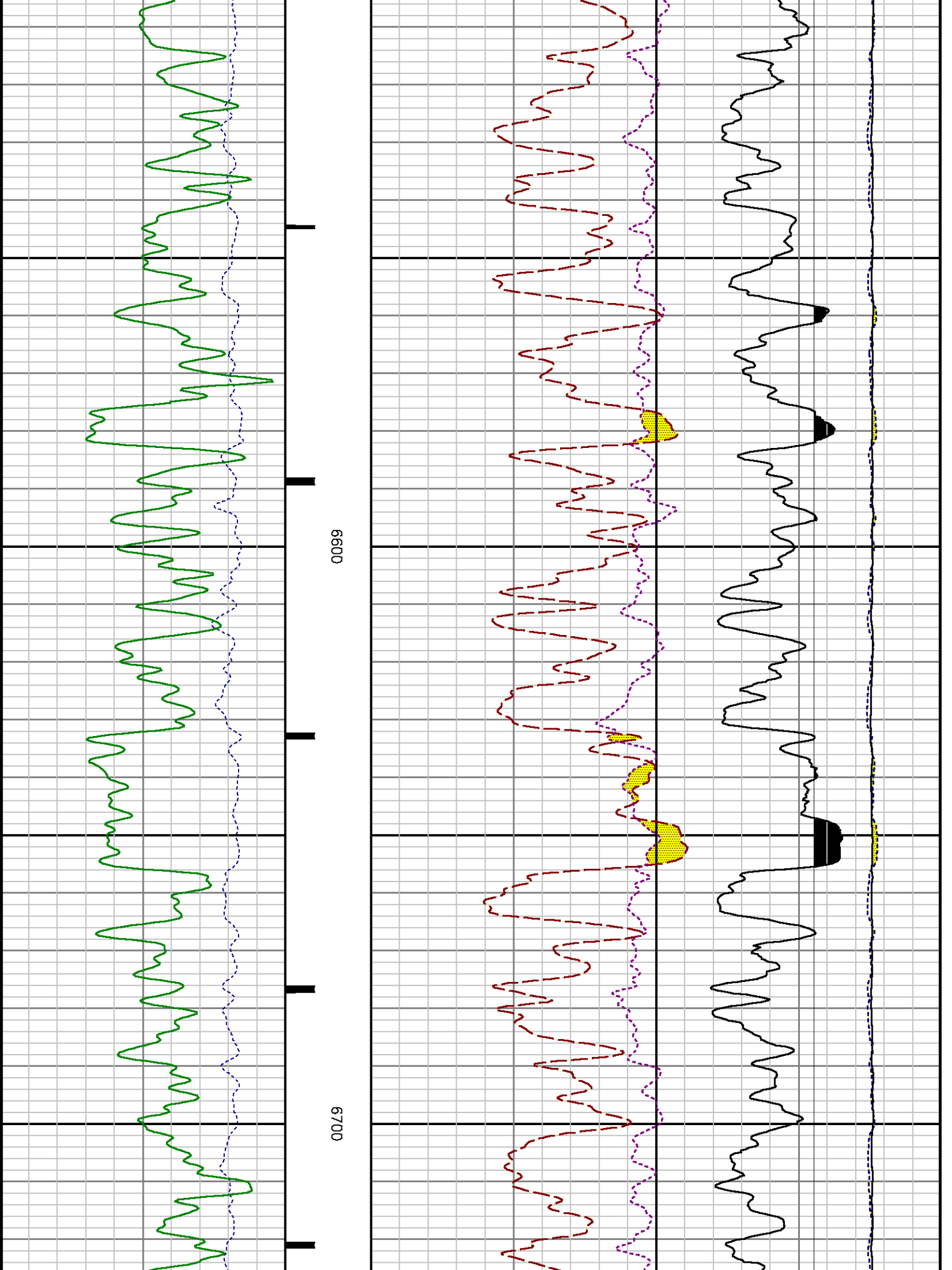


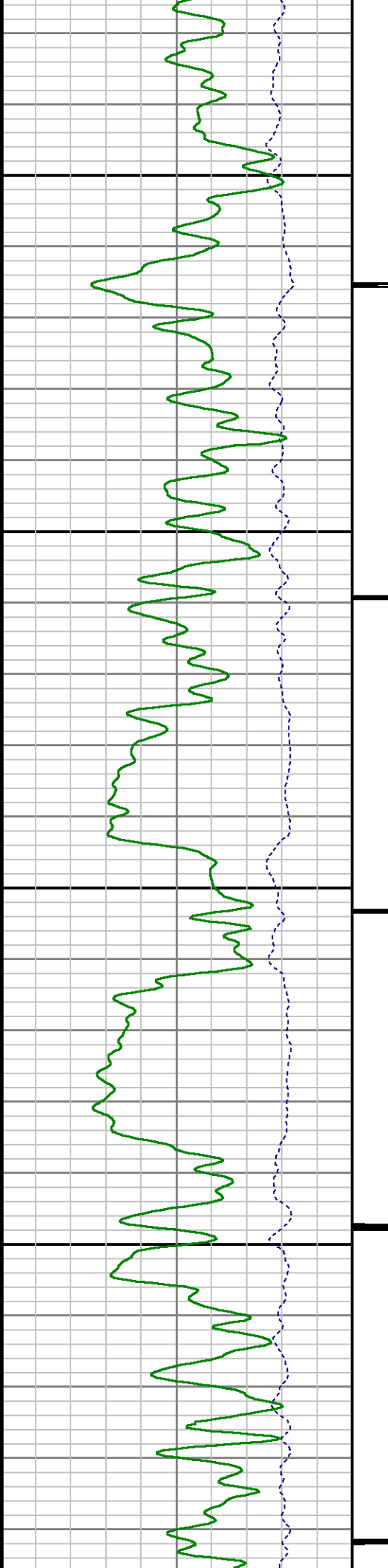






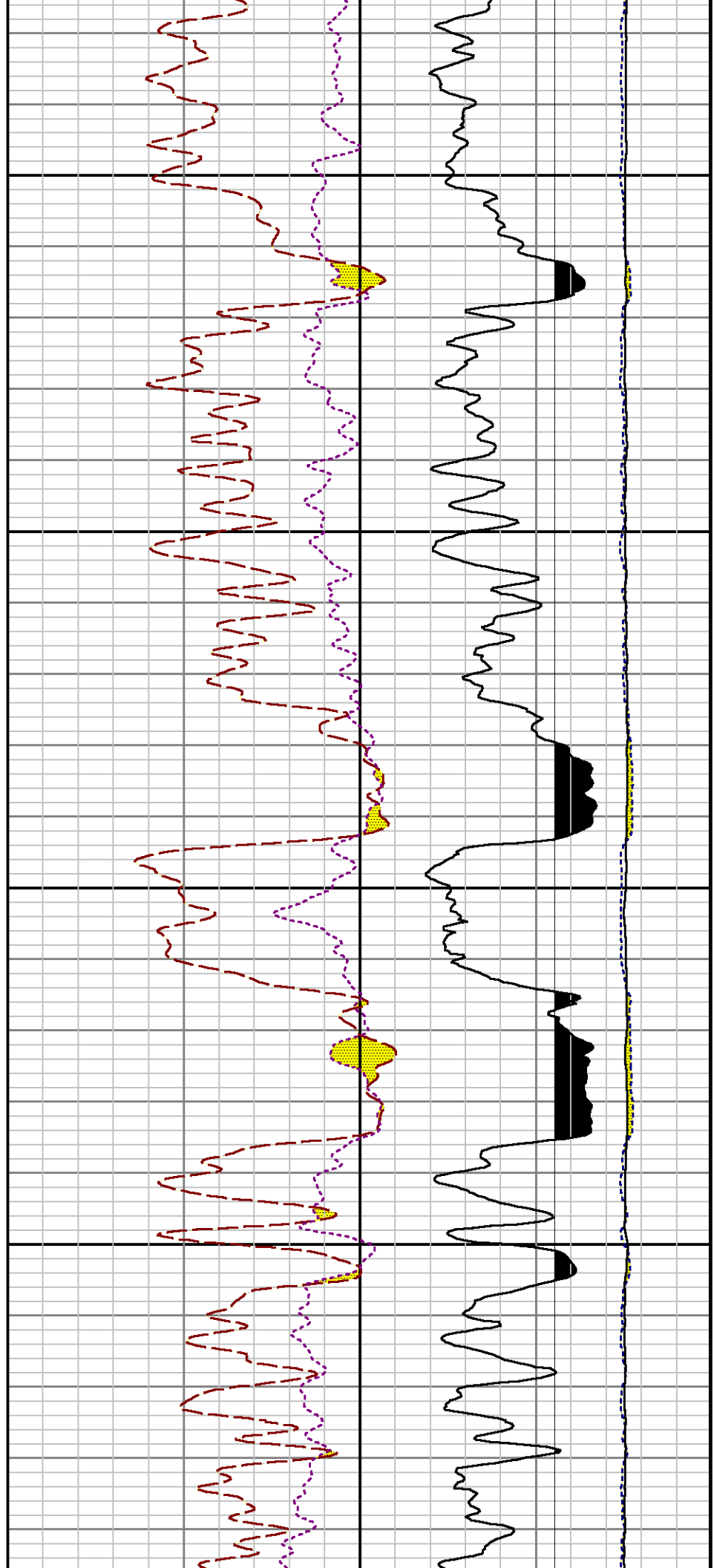


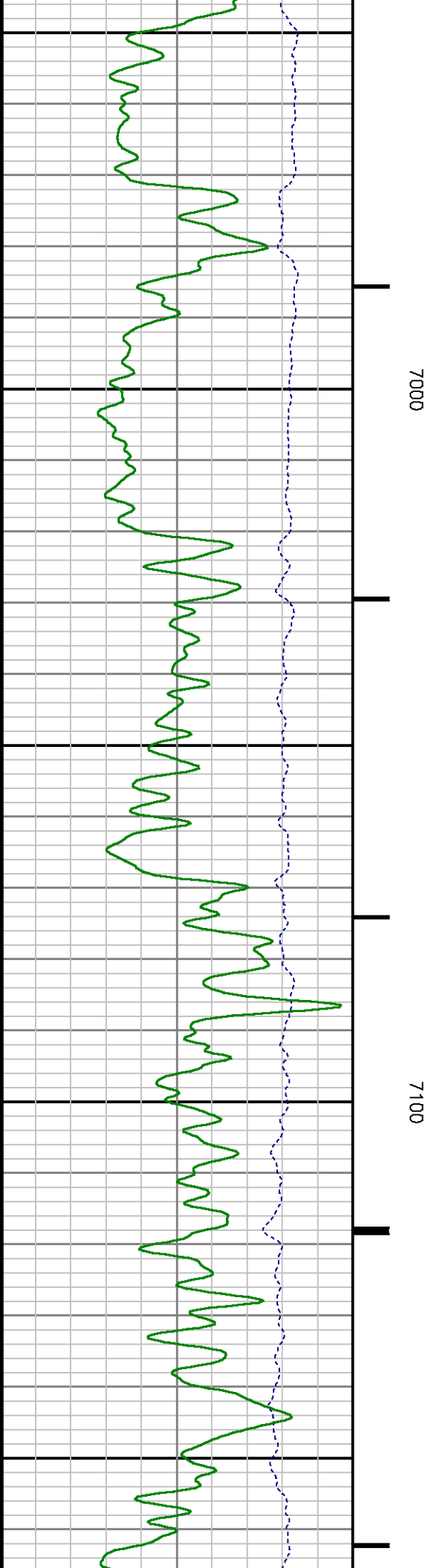
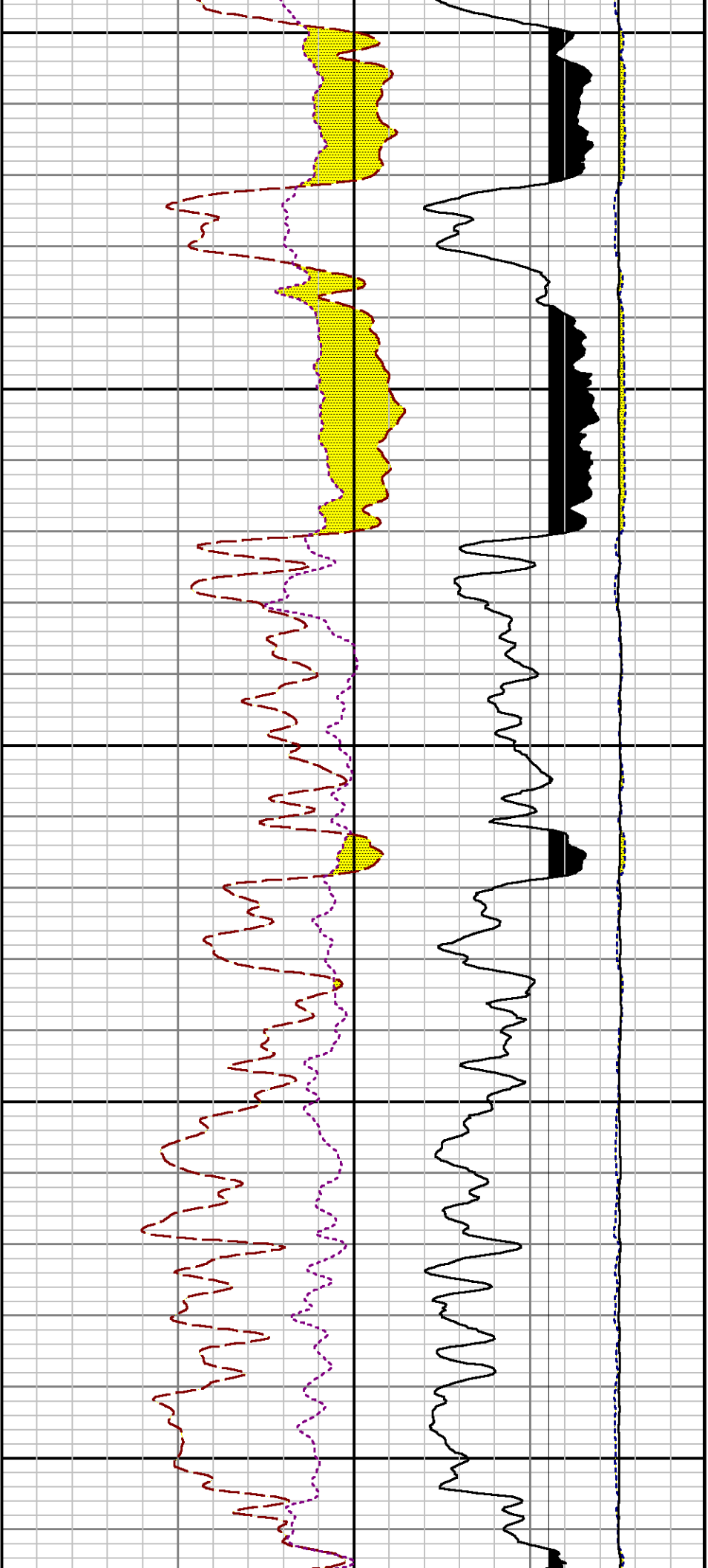


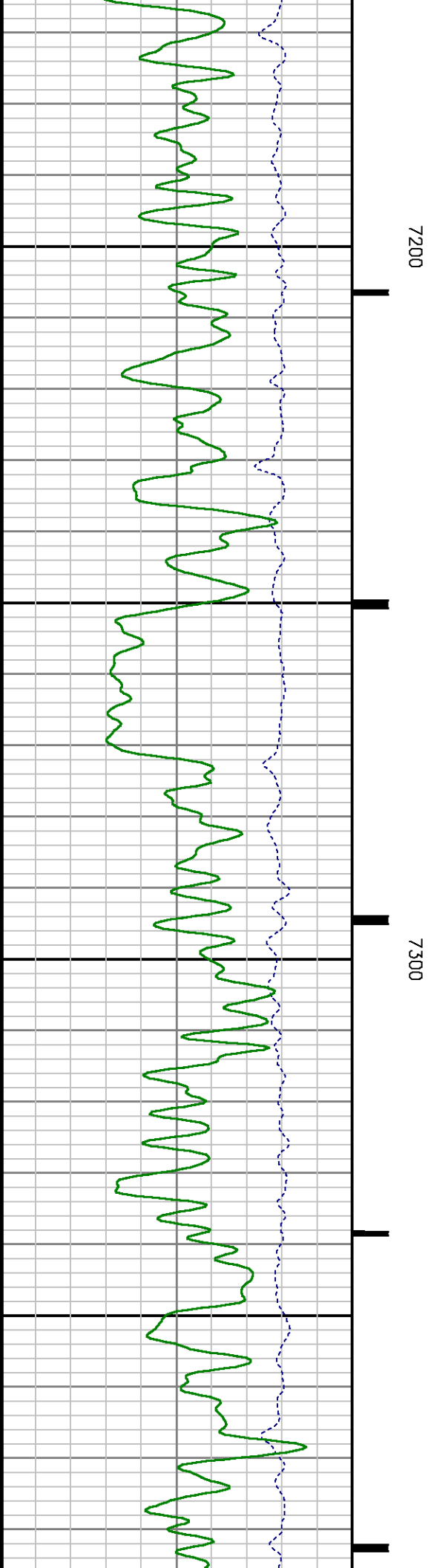
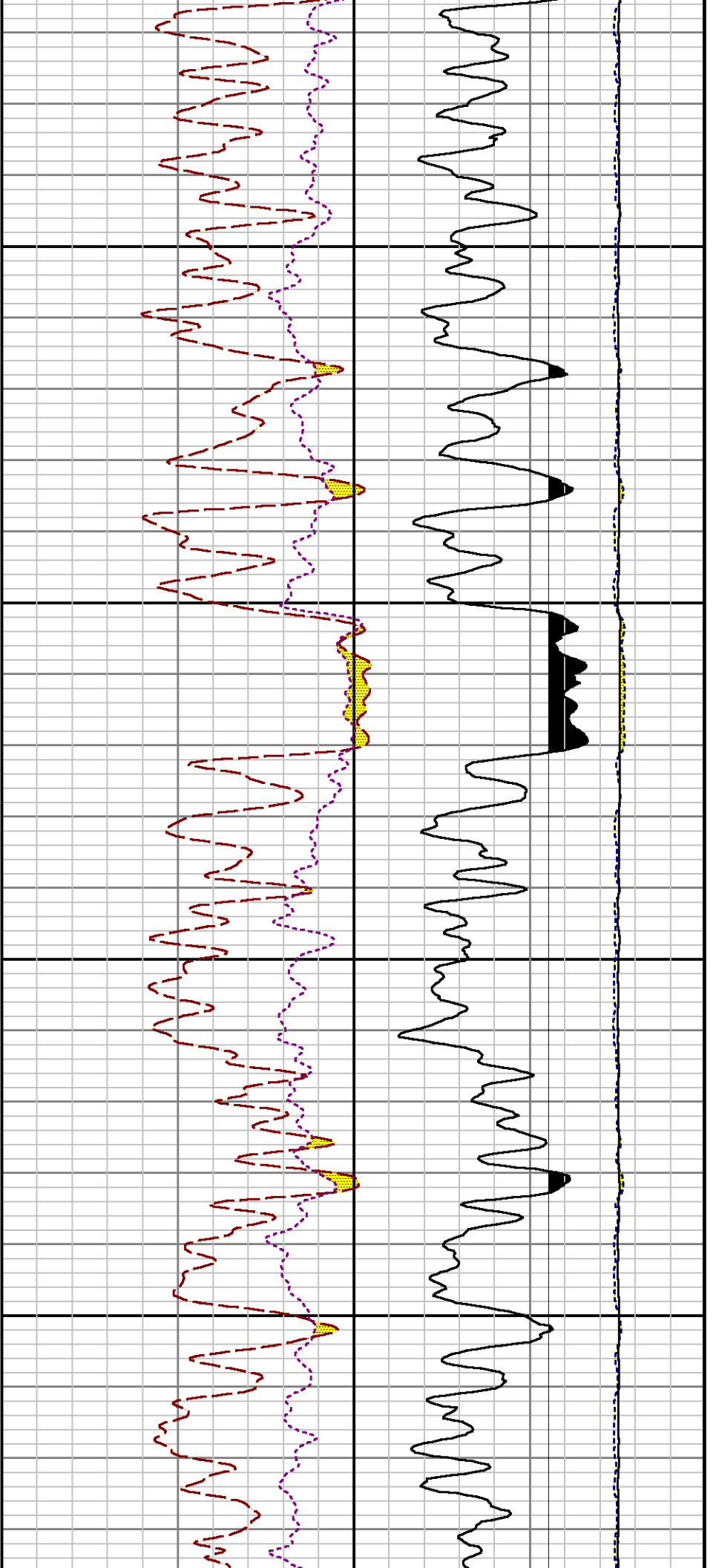


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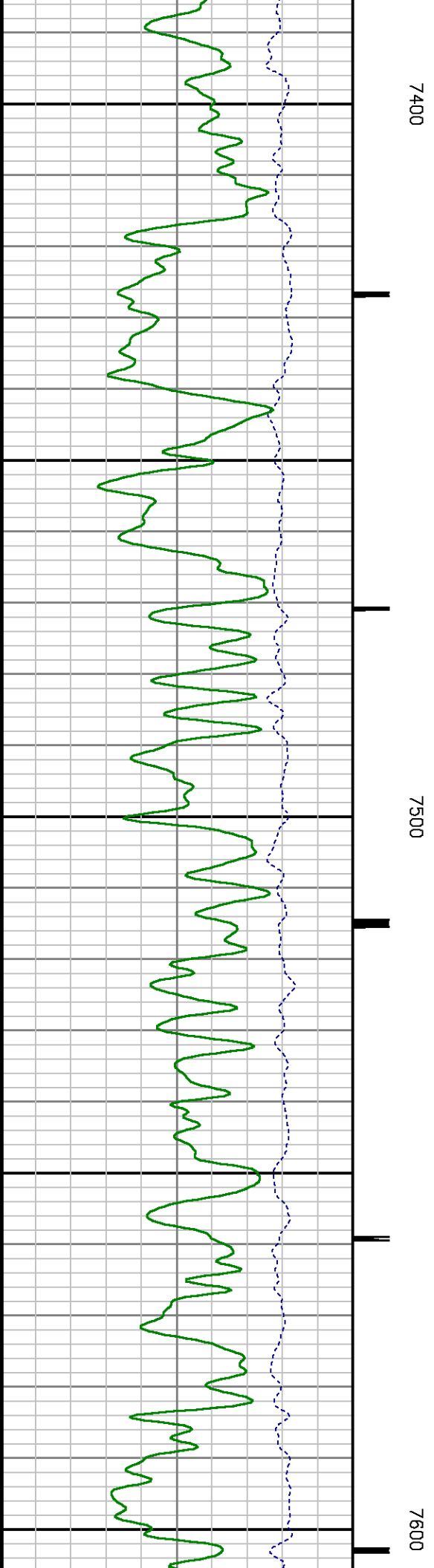
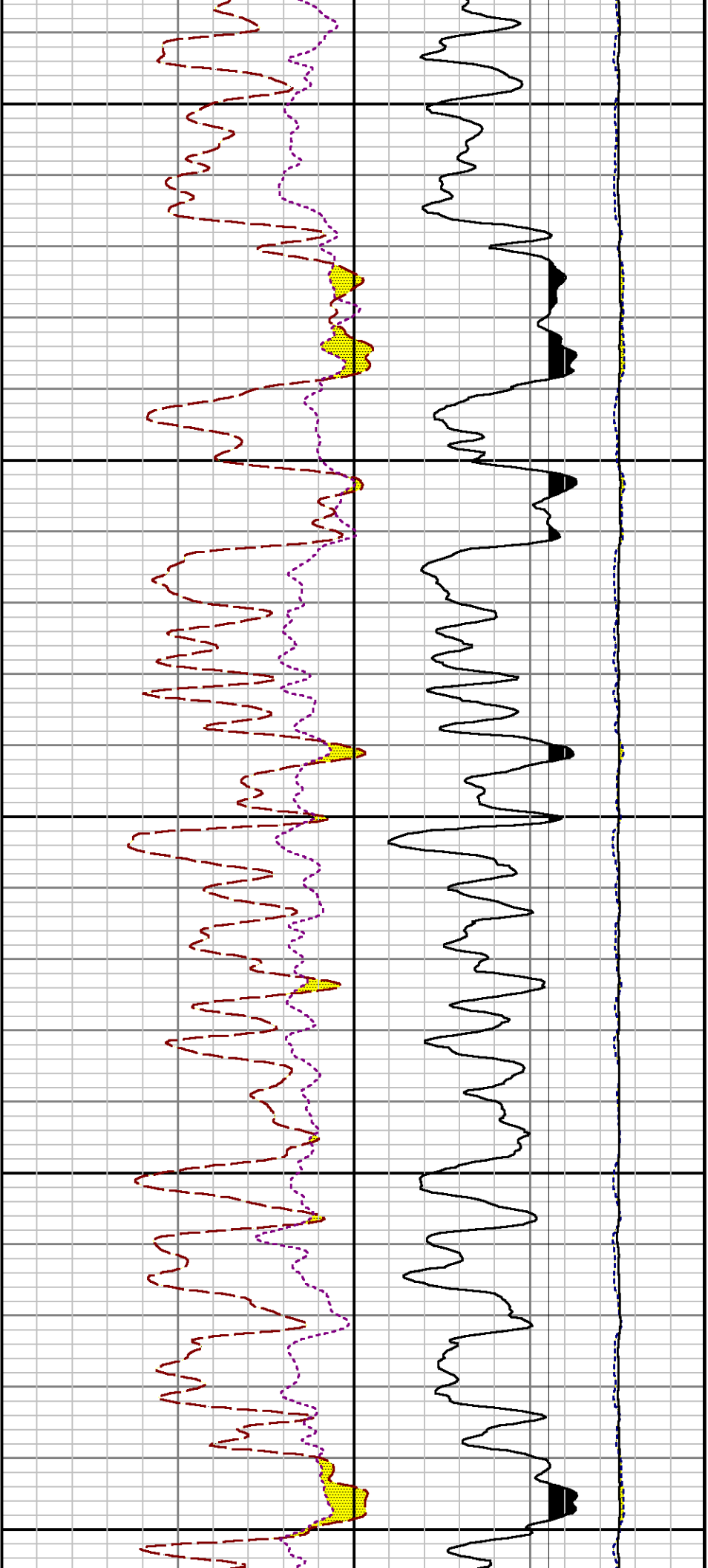
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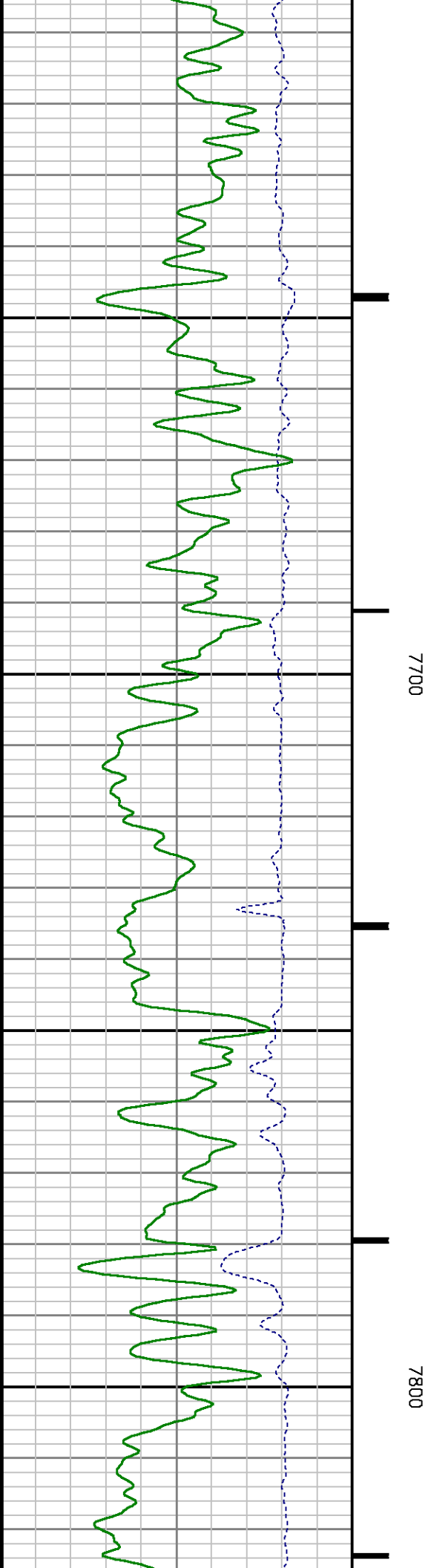
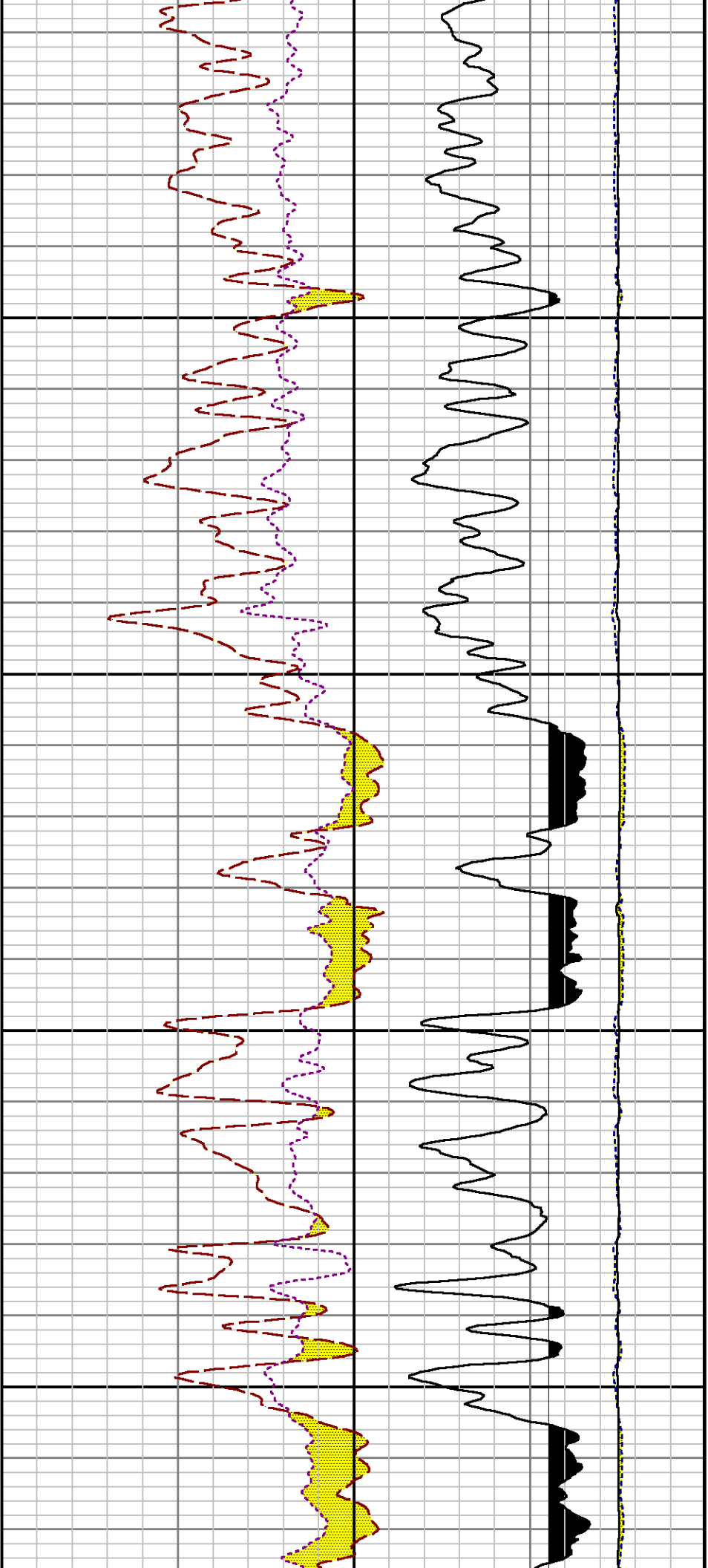


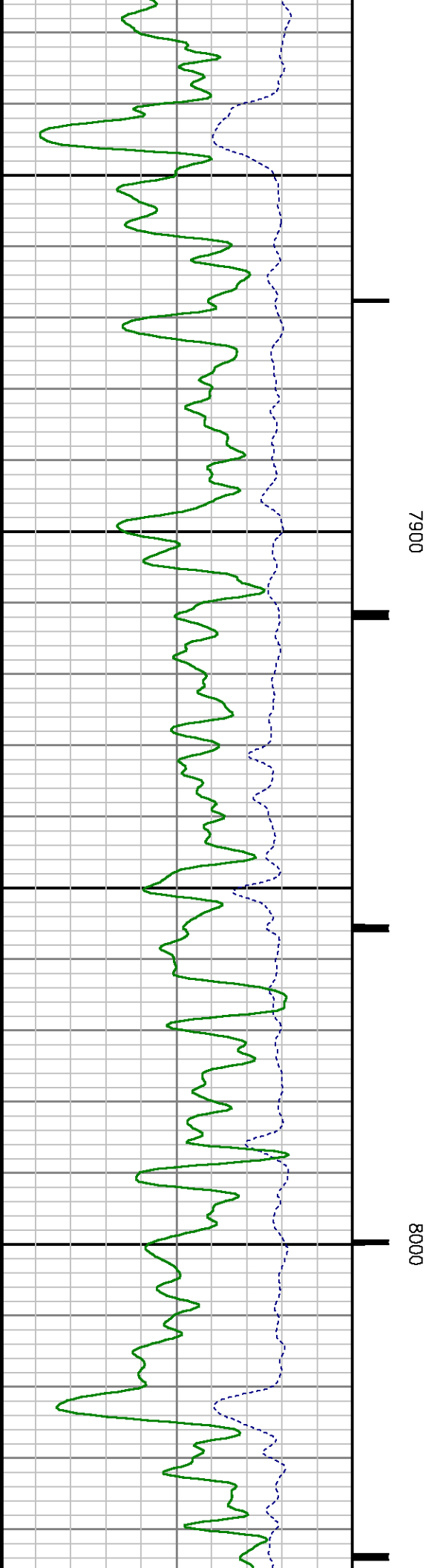
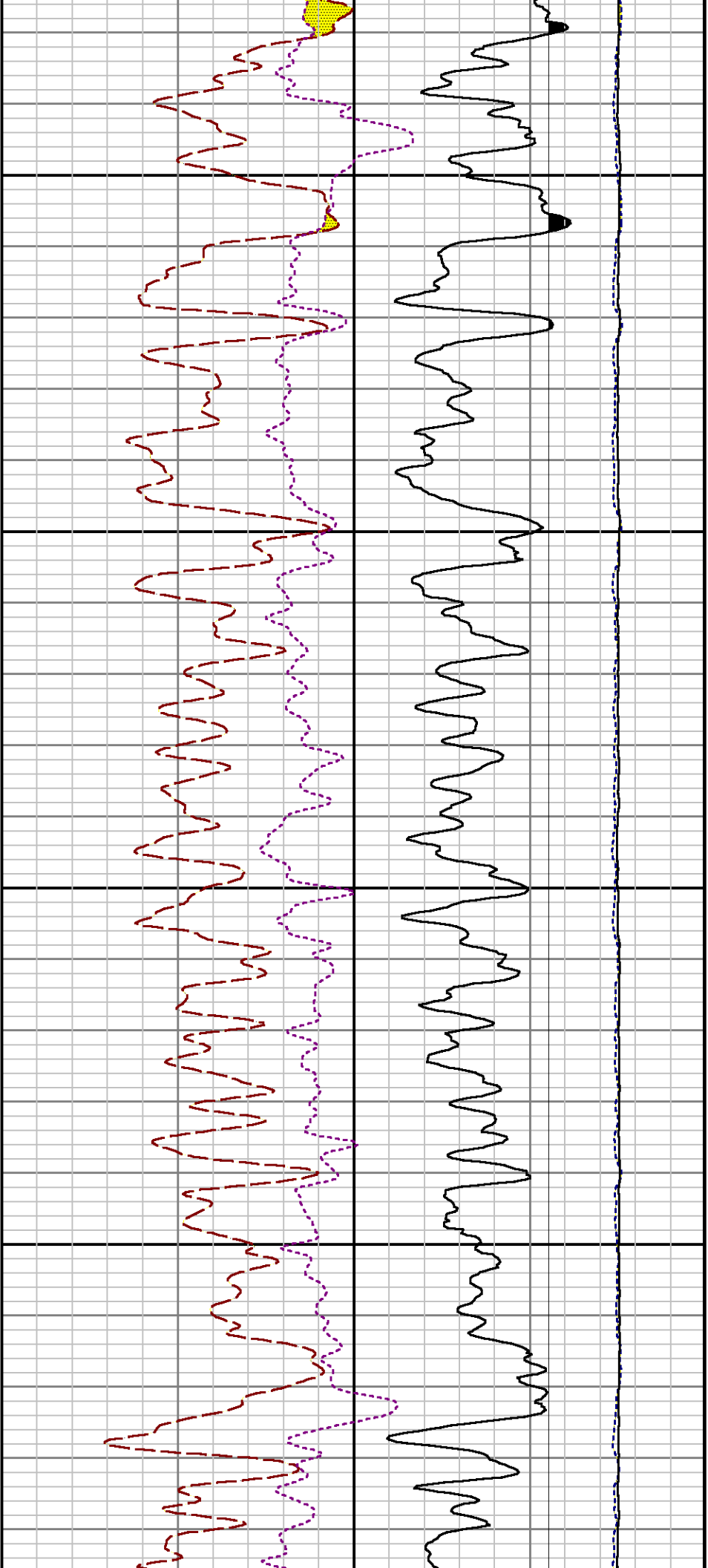


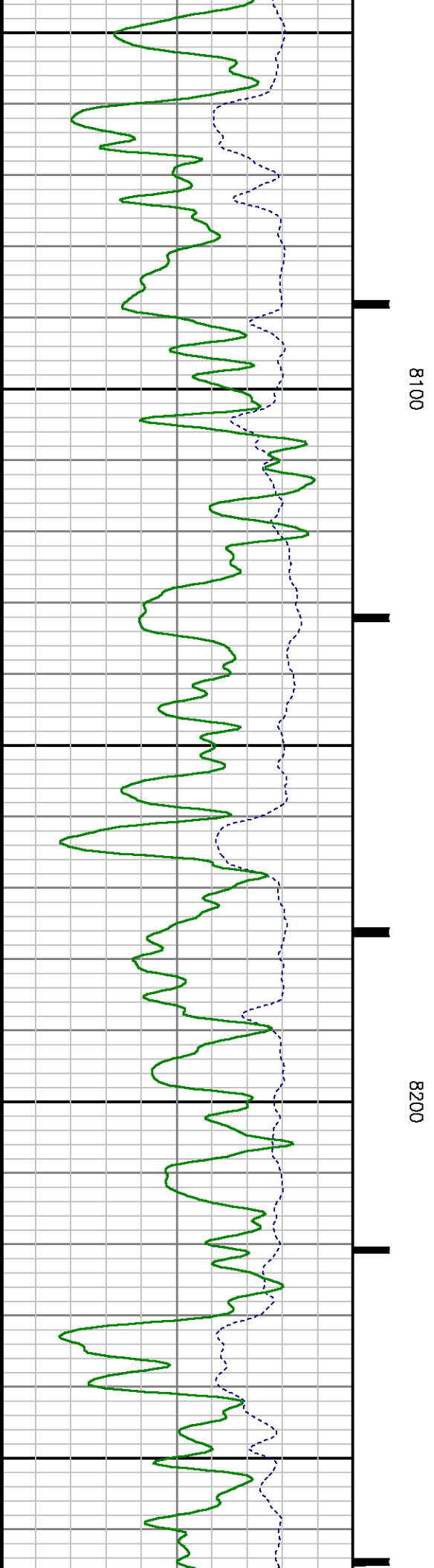
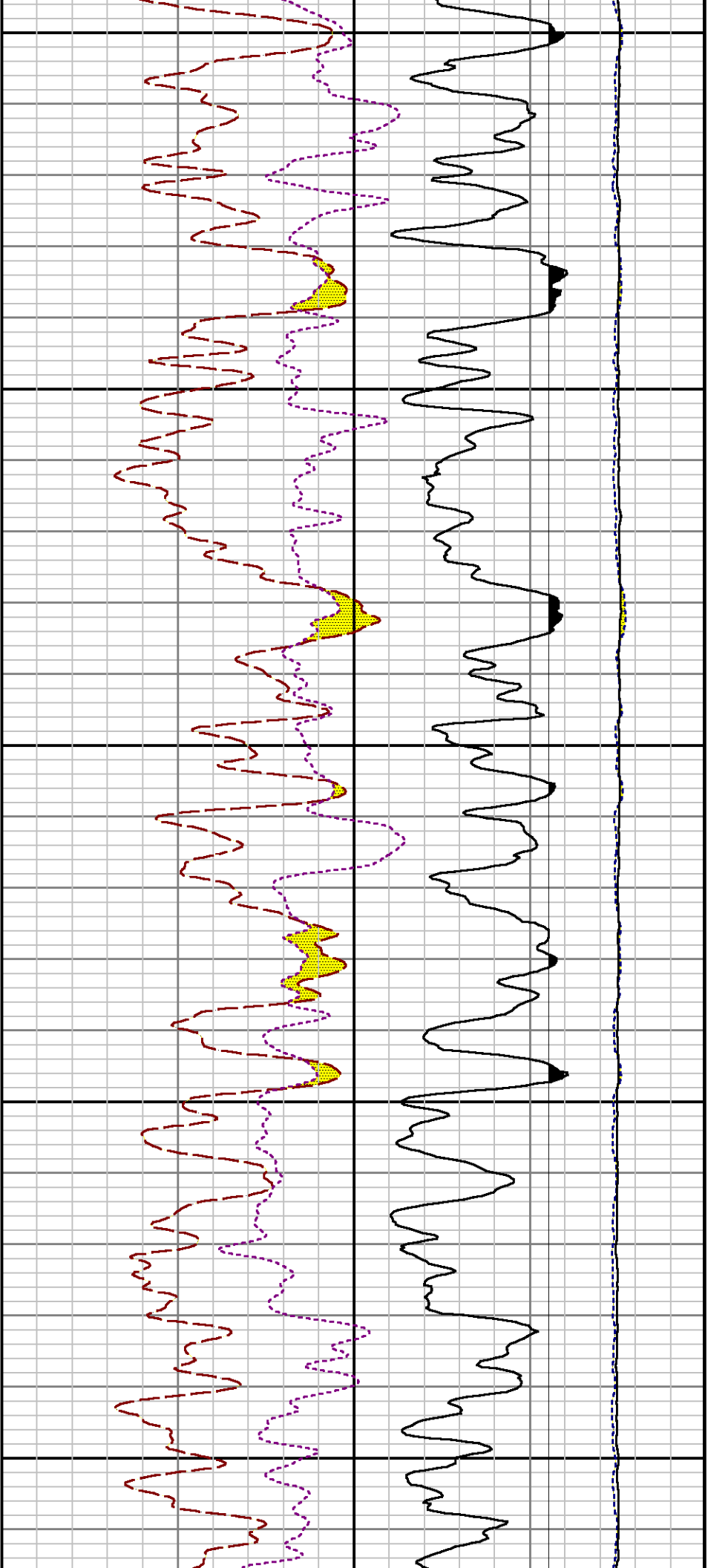


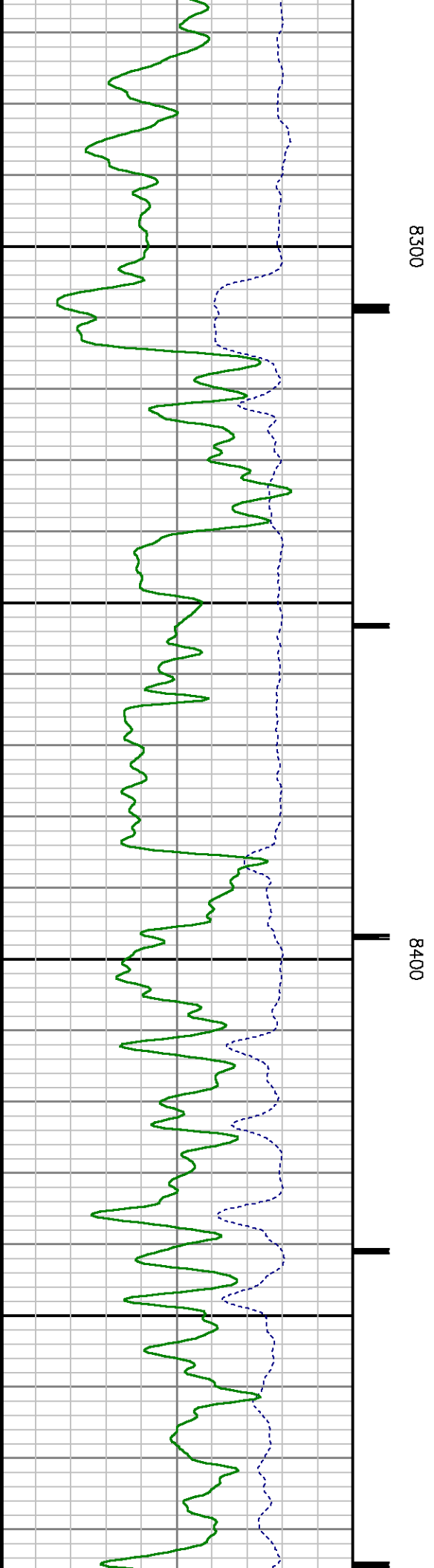
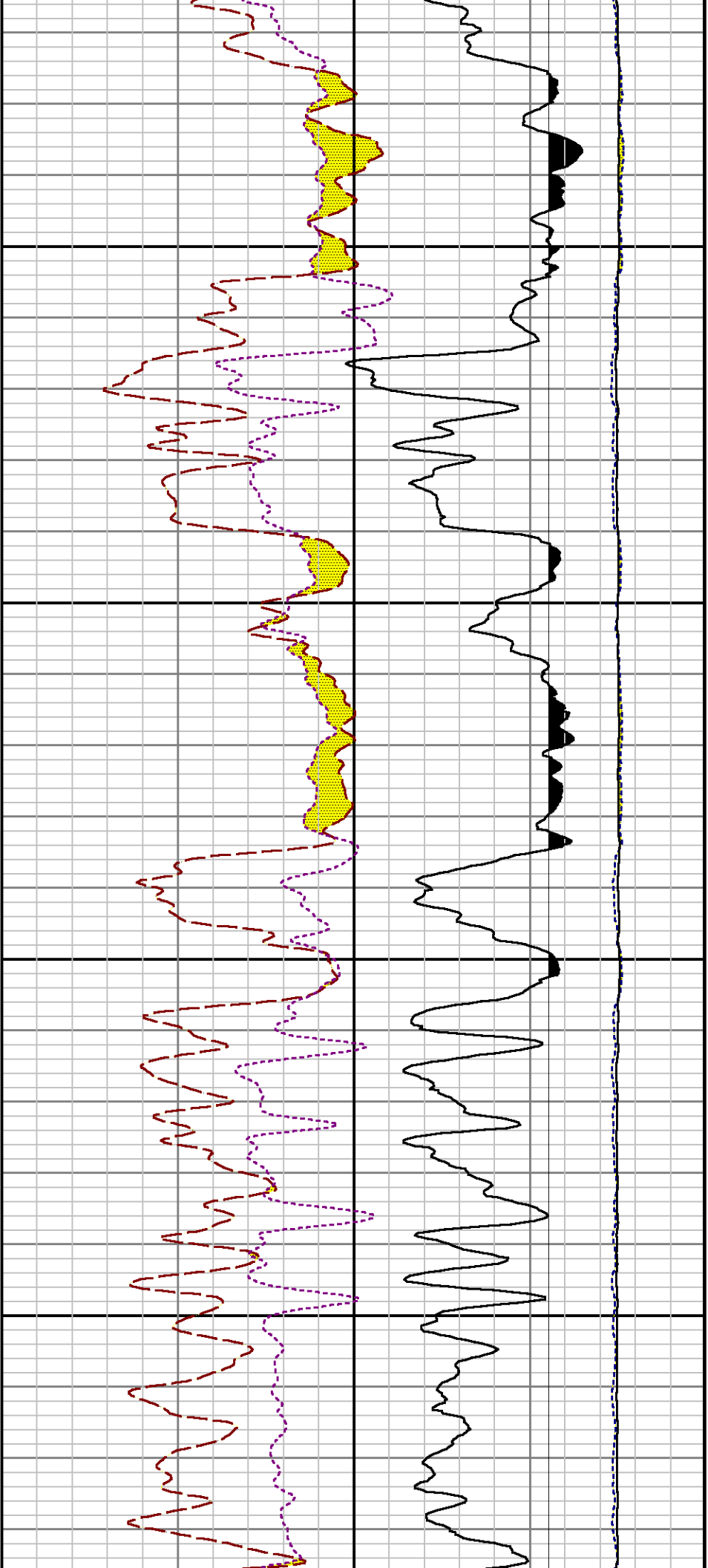


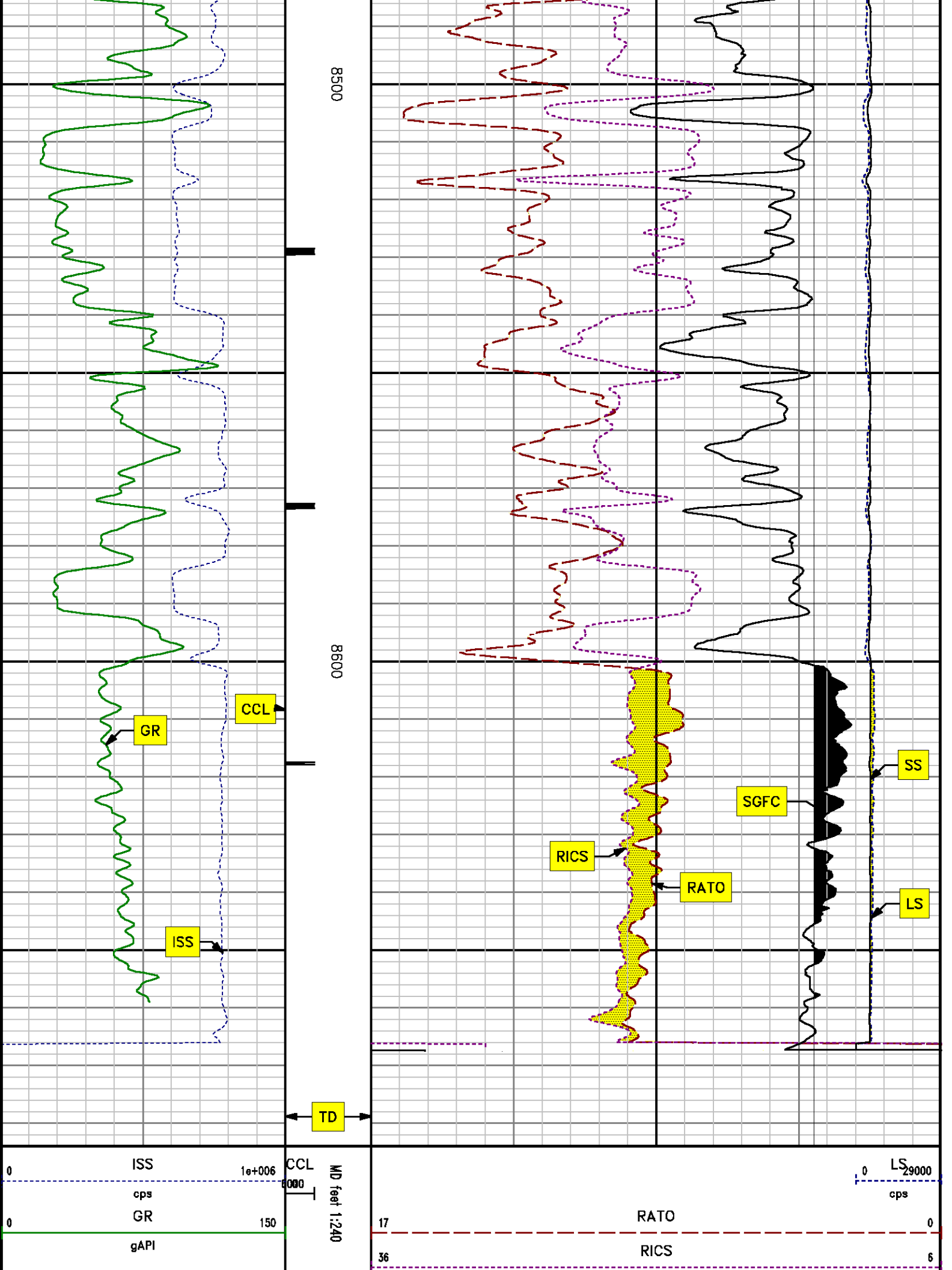












**REPEAT SECTION**  
**PNC 3-D MODE**

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7877.044	8209.569
PNC Porosity	Borehole Size	8.750	inch	7877.044	8209.569
PNC Porosity	Casing Size	4.500	inch	7877.044	8209.569
PNC Porosity	Gas Filled	Non Gas Filled		7877.044	8209.569
PNC Porosity	Matrix	Sandstone		7877.044	8209.569
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	7877.044	8209.569

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
8248ED	-26.519	FLTM							
8248ED	-24.519	CCL	CHV						
2812LA	-21.969	GR							
8281XA	-12.702	HVC3Q0	SEQ3	AMA3	AML3	BKX	CXS		
		CPT3Q0	CPT3Q2	CPT3Q3	CPT3Q4	ET3	IXS		
		MCS3	MCS3Q0	QCAL3	RGN3	RICX	SDA3		
		SDL3	SGA3	SGL3	STA3	XS	ASPEC3		
		AMB3	AMF3	CHF3	IXSC	IXSN	RAT023		
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D		
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR		
		RICXR							
		HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2		
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3		
8281XA	-12.291	CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0		
		QCAL2	RGN2	RIC2	RONE23	RTW023	SDA2		
		SDL2	SGA2	SGL2	STA2	XS	ASPEC2		

8281XA

-12.041

QCAL2	RGN2	RTCL	RONL23	RTW023	SDA2
STA2	ASPEC2	ILSC	ILSN	WDTH2	RICLC
CLSR	ILSR	LSR	RICLR		
CPRS	HVC1Q0	MV	SEQ	SEQ1	AMA1
AMB1	AME1	AMF1	AML1	BKS	CHF1
CSS	CORB	CORF	CPT1Q0	CPT1Q2	CPT1Q2A
CPT1Q2B	CPT1Q2C	CPT1Q3	CPT1Q4	CPT1Q5	ET1
G1	G2	GE1S	GE2S	ISS	MCS1
MCS1Q0	QA1	QCAL1	QM1	RAT0	RAT013
RBOR	RGN1	RICS	RIN	RONE	RPOR
RTW0	RIN13	RONE13	RTW013	SALB	SC1
SDA1	SDL1	SGA1	SGB1	SGBC	SGE1
SGF1	SGFC	SGK1	SGL1	SS	SS2
STA1	PD1S	PD2S	PD3S	MD1S	MD2S
MD3S	DG1S	DG2S	DG3S	PD1M	PD2M
PD3M	MD1M	MD2M	MD3M	DG1M	DG2M
DG3M	MVS	MA	MVM	FILV	IAM
TA	PVM	PVS	IAS	SSTAT	QPD1
QPD2	QPD3	QMD1	QMD2	QMD3	QDG1
QDG2	QDG3	QMA	QTA	QFILV	QMV
QPV	QIA	DERR	DCNT	QPK1	QSA1
PKS1	ASPEC1	HOC	FE2XC	ISSC	RINC
ISSN	RDEN	WDTH1	RICSC	CSSR	G1R
G2R	ISSR	SSR	SS2R	RATOR	RAT013R
RBORR	RICSR	RINR	RIN13R	RONER	RPORR
RTWOR					
PTFS	PTMS				
SPF1	SPFQ	TSCP	TSDP		
DTEM	TEMP	TNF			
TEN	TTEN				

8255XA

-0.792

8255XA

-0.775

8255XA

0.000

SYSTEM

0.000

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

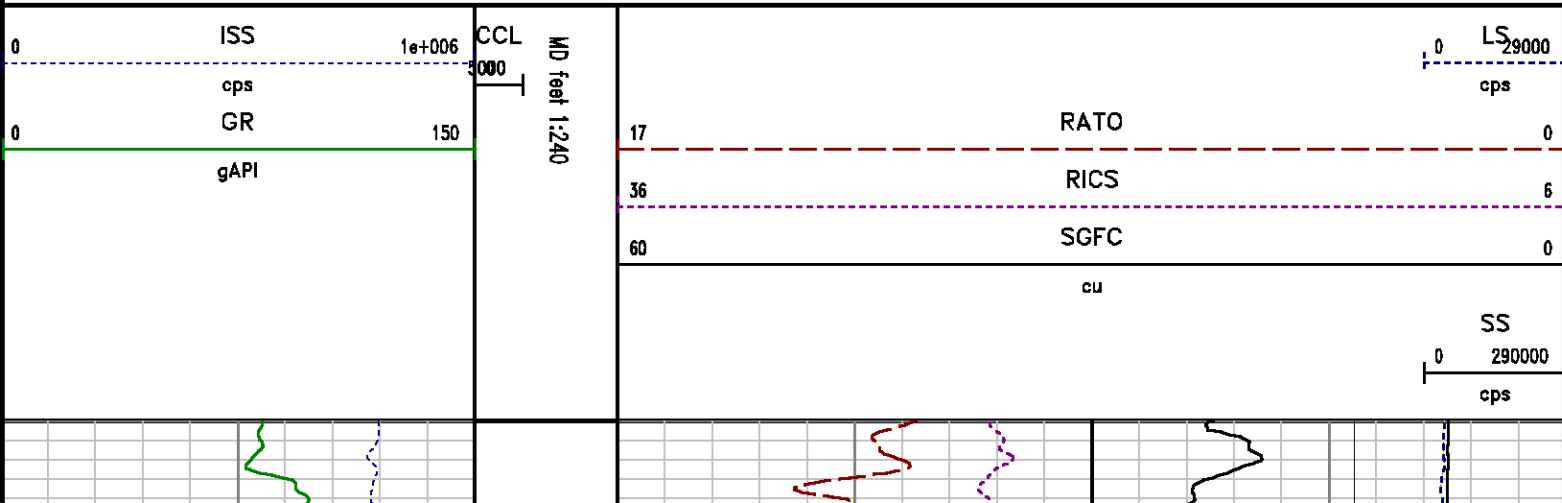
Well : SAVAGE RWF 413-25

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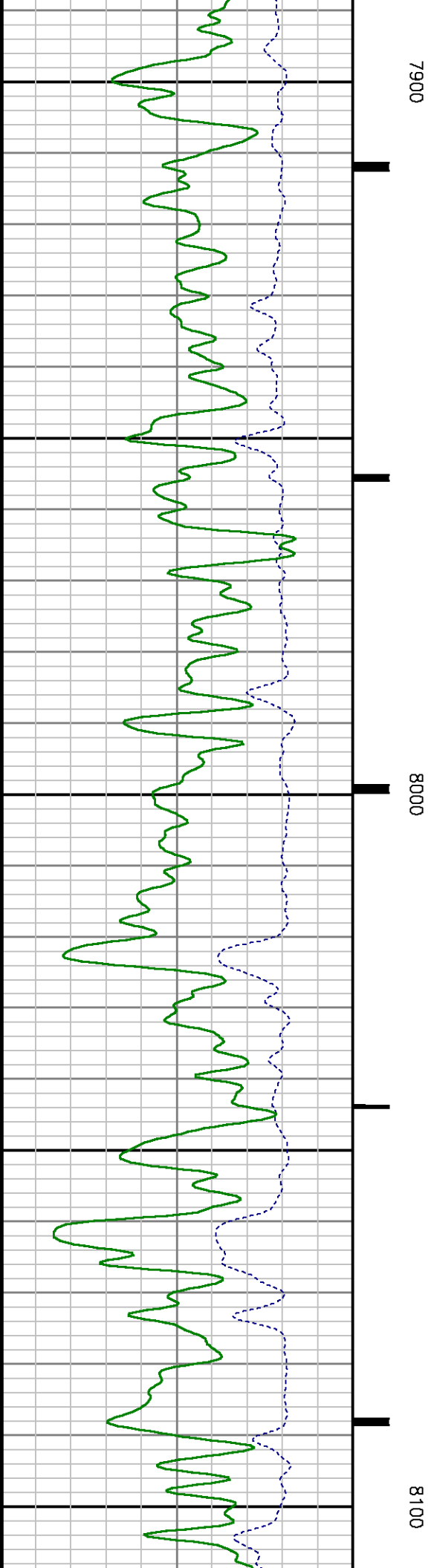
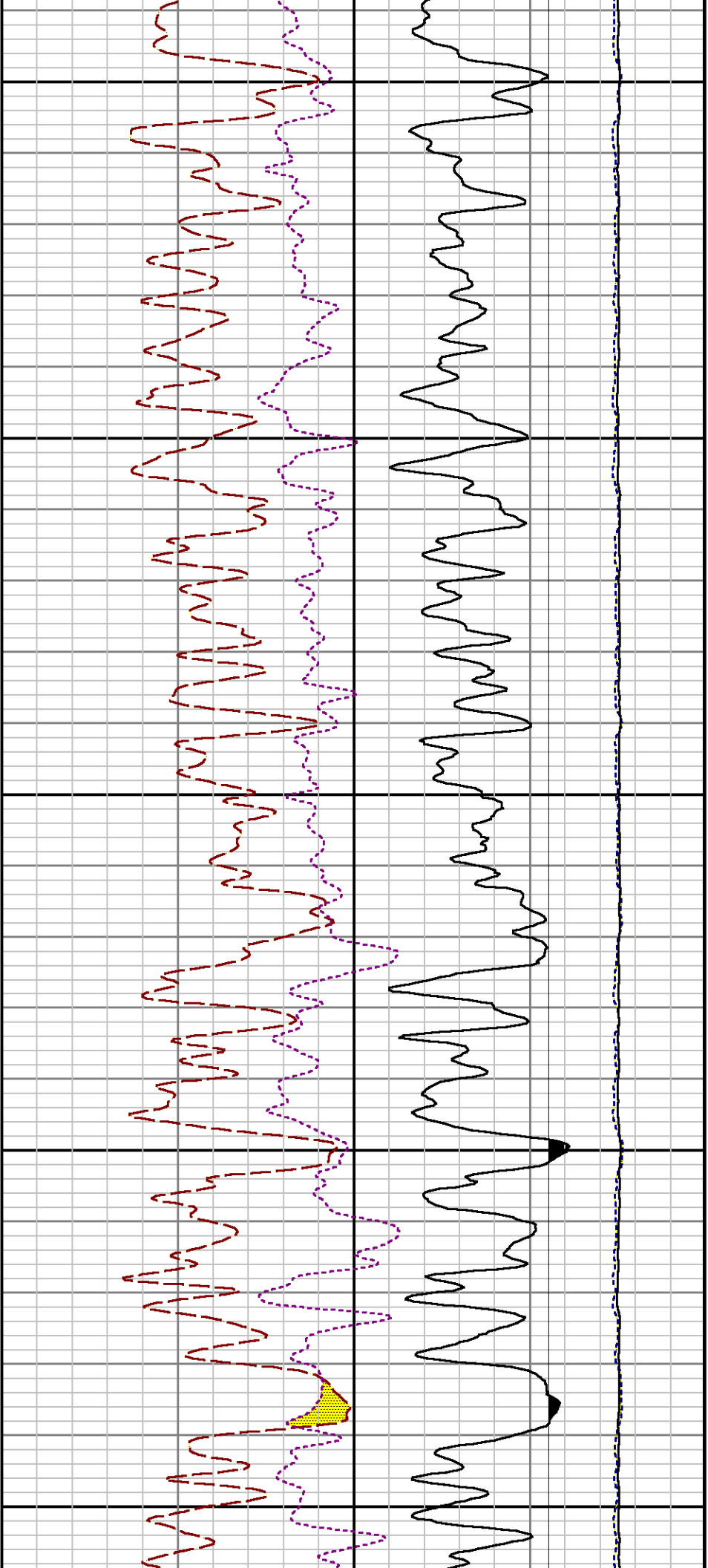
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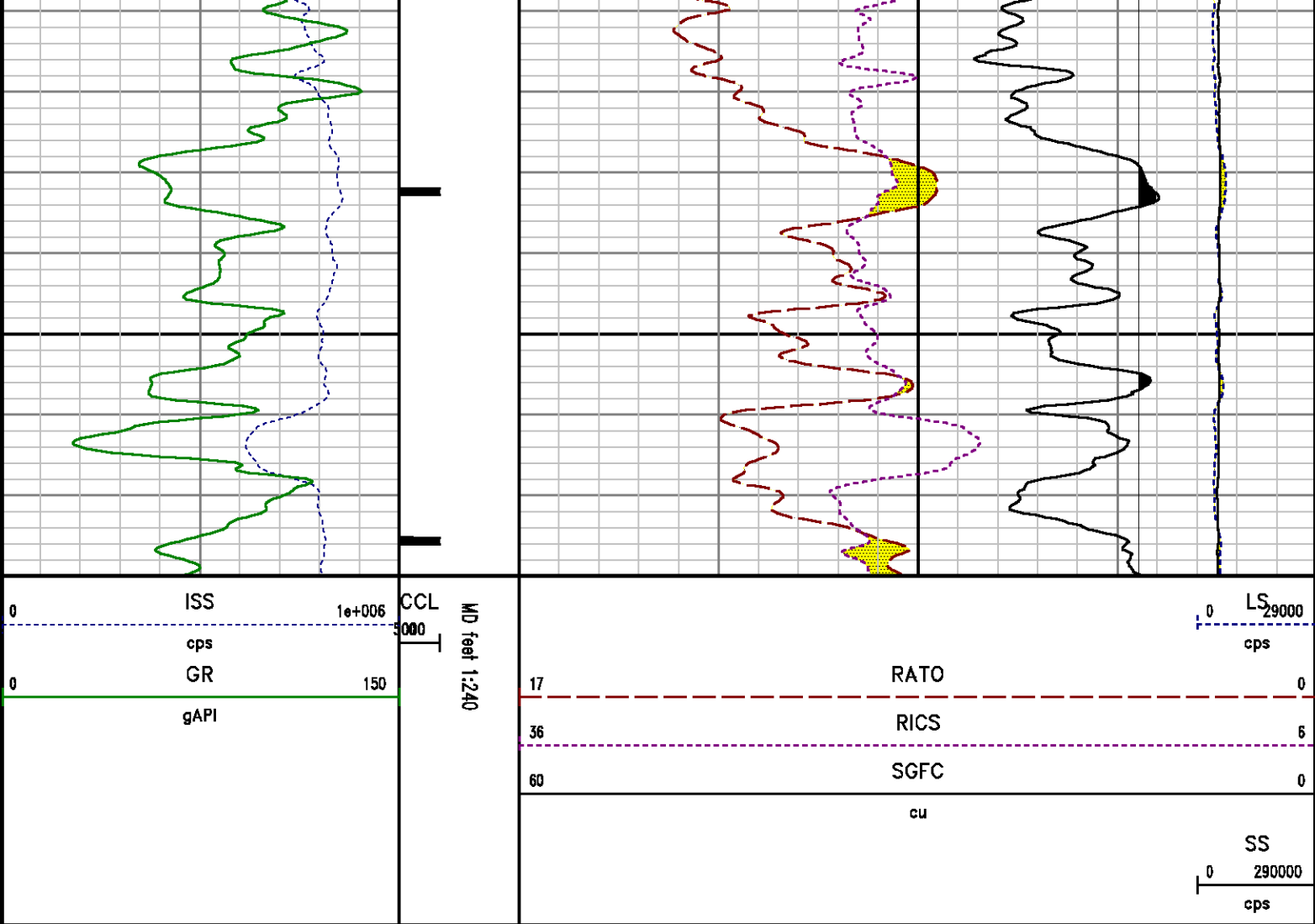
Interval : 7880.00 - 8180.00 feet UP

Created : 3/26/2014 5:29:28 PM









## CALIBRATION SUMMARY

*PNC*

Calibration File: C:\case\calver\PNC\25101.cal

### PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Mar 13 14:14:10 2014 TOOL SERIES: 8281XA ASSET: 251 SEQ: 01

Calibrator #

GJSHOP GJSHOP

Source #

8281AA 10220684

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	814019	123.00	2309.00	2303.00	2319.00	107.03	7.00	0.9802

Interpolated

1300000

144.37

2293.78

2297.36

2317.30

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	814019	9005.19	1478.68	184.20	25.79	0.14	24.40	0.28
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	814019	171904.59	27109.32	91110.88	32439.69	8459.48	55168.11	13542.46
Fit Quality %		0.43	0.66	0.58	0.56	0.43	0.55	0.45

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	814019	1.43	4.74	30.03	14.76	10.77	3.83	4.07
		1.42 1.45	3.55 5.52	22.20 32.70	10.99 16.34	10.06 11.10	3.57 3.95	3.76 4.22
Fit Quality %		0.03	0.25	0.16	0.19	0.07	0.05	0.05
Reduced	1378500	1.43	4.75	30.10	14.80	10.76	3.83	4.07
		1.42 1.45	4.33 5.52	27.60 32.70	13.70 16.34	10.06 11.10	3.57 3.95	3.76 4.22

## GAMMA RAY

Calibration File: C:\case\calver\GR\38209.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED:	Sun Mar 09 17:06:22 2014	TOOL SERIES:	2812LA	ASSET:	382	SEQ:	09
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K WA-612	34.21	244.93	0.997	34.09	244.09	210.00	

Verification File: C:\case\calver\GR\38209.VP

### PRIMARY VERIFICATION

DATE/TIME PERFORMED:	Sun Mar 09 17:10:55 2014	TOOL SERIES:	2812LA	ASSET:	382	SEQ:	09
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K WA-612	34.68	245.32	0.997	34.56	244.48	209.92	

## TEMPERATURE

Calibration File: C:\case\calver\TEMP\77456813.cal

DATE/TIME PERFORMED: FEB 13 2014

TOOL SERIES: 8255XA ASSET: 774568 SEQ: 13

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-9.274653e+000	1.055639e-001	2.143764e-006	-2.782846e-010	0.000000e+000	0.000000e+000

## TOOL DIAGRAM

### OTA SHORT CABLE HEAD

#### PCM POWER SUPPLY

Series 8250EA  
 Mnemonic PCM  
 Diameter 1.70"  
 Weight 18.00 lb  
 Length 3.86'  
 Temp Rating 350.00 °F

#### TELEMETRY / CCL

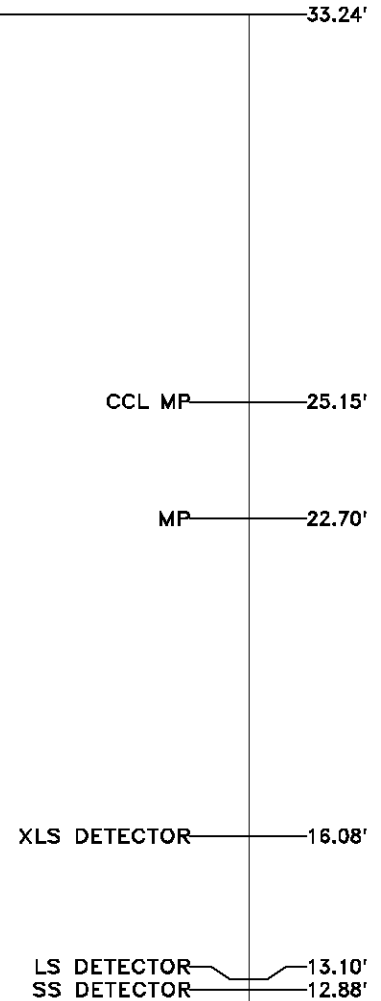
Series 8248EA  
 Mnemonic PCM  
 Diameter 1.70"  
 Weight 20.00 lb  
 Length 4.46'  
 Measure Point 1.00' CCL MP  
 Temp Rating 350.00 °F  
 Press Rating 15000.00 PSI

#### SONDEX GAMMA RAY

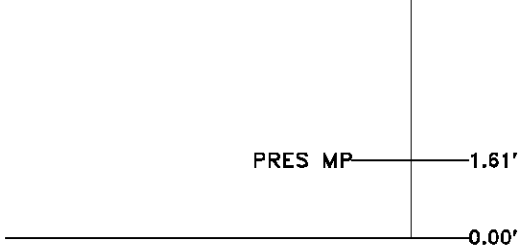
Series 2812LA  
 Mnemonic SNDX  
 Diameter 1.69"

### RESERVOIR PERFORMANCE MONITOR



Series 8281XA  
 Mnemonic RPM  
 Diameter 1.70"  
 Weight 75.00 lb  
 Length 18.58'  
 Measure Point 9.49' SS DETECTOR  
 Measure Point 9.72' LS DETECTOR  
 Measure Point 12.69' XLS DETECTOR  
 Temp Rating 350.00 °F  
 Press Rating 20000.00 PSI



TEMPERATURE / PRESSURE	
Series	8255XA
Mnemonic	SRPL
Diameter	1.70"
Weight	13.00 lb
Length	3.30'



Total Length: 33.24'  
 Total Weight: Not Available  
 Max Diameter: 0' 1.70"

 <b>Baker Atlas</b> 	<b>Company</b> WPX ENERGY <b>Well</b> SAVAGE RWF 413-25 <b>Field</b> RULISON <b>County</b> GARFIELD <b>State</b> CO	<b>File No:</b> CH084200 <b>API No:</b> 05045219810000
	<b>Location</b> SHL: 1625' FSL & 2304' FWL BHL: 2054' FSL & 1017' FWL  <b>SEC</b> 25 <b>TWP</b> 6S <b>RGE</b> 94W	<b>Elevations</b> <b>KB</b> 6122 ft <b>DF</b> <b>GL</b> 6096 ft  25 6S 94W RWF 23-25 PAD NABORS 577